CERTIFICATION CORNER
WHAT DO I NEED TO DO TO PASS THE MEMO?

THE AACE INTERNATIONAL BULLETIN
SECTION NEWS FROM AROUND THE WORLD

BONUS CONTENT - TECHNICAL ARTICLE
SCHEDULE UPDATE ANALYSIS: RETAINED LOGIC VERSUS PROGRESS OVERRIDE
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CLICK to watch Debbie Sterling talk about “Inspiring the Next Generation of Female Engineers” presented by TEDxPSU.

Close your eyes and picture an engineer. You probably weren’t envisioning Debbie Sterling. Listen as she shares her story about discovering a passion for engineering and her hopes for the next generation of female engineers.

Debbie Sterling is a female engineer and founder of GoldieBlox, a toy company out to inspire the next generation of female engineers. She has made it her mission in life to tackle the gender gap in science, technology, engineering and math. Prior to founding GoldieBlox, Debbie served as the Marketing Director of Lori Bonn, a national jewelry company.

Outside the Box will be a standing column designed to introduce new ideas and concepts from other resources and professions that may help stimulate a new way of thinking about total cost management. The views and opinions expressed are those of the authors and do not necessarily reflect the official policy or position of AACE International. We invite Source readers to send suggestions on other sources to editor@aacei.org.
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World-Class Presentations Delivered With International Flair,” is the headline for our second International Total Cost Management Conference in Bangkok, Thailand, in November of this year. Against the backdrop of one of the world’s beautiful cities, the conference keynote will be from renowned adventurer, Mr. Khoo Swee Chiow. The conference will also feature technical presentations and educational seminars. The conference epitomizes AACE as, “The Authority for Total Cost Management.” The conference re-emphasizes an AACE commitment to make our technical and educational products accessible to all of our members.

The event and location for the conference represents the truly international perspective of the Association and offers a quality conference, normally associated with the AACE Annual Meeting, to the membership in the Asia-Pacific region. The Board, Section, and Regional leadership are working in coordination with AACE Headquarters, with the various committees, and task force entities, to deliver this exceptional event. The Association is looking to the membership, our sponsors, and COMP members to: ‘Lean forward’ and make Bangkok a success. I will be there and hope to see you there.

Nominations for Board Election

The first 100 days of this administrative year are almost complete for both me and our Executive Director, Charity A. Golden, MBA CIA. There has been a smooth transition at Headquarters following the retirement of Dennis Stork as executive director. With our changed governance structure, there has been an initial meeting of the Executive Committee. After the brief ‘summer recess,’ it is back to business for our volunteer boards, committees, sections, and regions. The technical content is being worked for the next Annual Meeting in Las Vegas, and planning in well in hand for future meetings. The Associate Boards are working their operational plans to meet the strategic goals ahead of the Board of Directors meeting in October. The process of nominating candidates for Board election is also under way. To fill the board positions that are open for election, candidates are being sought for the following Board positions:

- President-Elect;
- Vice President-Administration;
- Vice President-International Regions;
- Individual Director-Region candidates for Regions 3, 5, 6, 8 and 10.

The nominating committee is chaired by Immediate Past President John Ciccarelli, PE CCP PSP. He is supported by Jay Carson, CCP CEP; Mark Grotefend, CCP EVP; Mathew Nicholas, PSP; Marlene Hyde, CCP EVP; Mark von Leffern, EVP PSP, and Venkatesh Babu Bhathe, CCP.

The Nominating Committee has sought nominations and in accordance with the requirements of our bylaws, they will present their nominations to the Vice President-Administration no later than October 31st. The final slate of candidates will be presented to a membership vote in the New Year; further details will be provided through the Association website, on-line.
Source magazine, ‘Cost Engineering’ journal, e-news, e-mail, and Section Connection newsletter.

My Elevator Speech

I am pleased to have received many kind invitations and opportunities to represent the Association. With that in mind, I decided to refresh my “elevator speech.” My current work-in-progress is . . .

“I don’t know who you are. I don’t know what you want. What I have are a very particular set of skills—skills I have acquired over a very long career. Skills provided by AACE International, “The Authority for Total Cost Management.” These skills are also available for people like you. If you join and participate in the Association, you will enhance your knowledge in cost engineering through educational and technical products, gain certification, and provide for your communities better predictability of cost and schedule outcomes on your projects. But if you don’t join AACE, I will look for you, I will find you, and I will enlist you.”

In the coming weeks, I will be at the fall Certification Board and AACE Board of Directors meetings, at the Federal Agency Roundtable, the Bay Area symposium, and the ITCM Conference (as mentioned above). I will join President-Elect, Julie Owen, CCP PSP, in Peru, on the second leg of a South America tour for the 2nd Simposio de Ingenieria de Costos. My apologies to Chile, as I cannot make the, “Turbulence de Hoy en la Gestion de Proyectos.” Plans are also being finalized to meet members of the UK Section and to visit Beijing and Shanghai in China, to strengthen our strategic relationships there.

Looking at my schedule, I guess I will have plenty of time and opportunity to refine my elevator speech.

If you would like to contact our current president with questions or comments about The President’s Message please address your e-mail to president@aacei.org. To engage in other discussions, check out AACE International’s Online Forums at www.aacei.org/forums.

UPDATE ON ABSTRACTS SUBMITTED FOR THE 2015 ANNUAL MEETING

Abstracts for potential technical paper presentations for the 2015 AACE Annual Meeting in Las Vegas have been received and forwarded to members of the AACE Technical Board.

The Technical Board is scheduled to meet in Chicago in October for its fall board meeting. At that meeting, all submitted abstracts will be presented and reviewed and decisions made on which ones to accept. Authors can expect to receive e-mail notifications of whether or not their submission(s) was/were accepted by mid to late October.

Acceptance does not guarantee a presentation slot at the Annual Meeting. Once the abstract is accepted, the author(s) have until January 31, 2015, to submit a full technical paper for peer review. Papers that pass the review process will then either be assigned a presentation time slot or placed on a standby list to fill in should any authors have to withdrawal and not be able to fill an assigned presentation time at the 2015 Annual Meeting. Anyone with any questions can e-mail: trans@aacei.org.
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As part of the exam for the AACE specialty certifications (CEP, DRMP, EVP, PSP), the candidate is required to write a memo. There have been multiple questions and inquiries made to the Certification Program regarding what kind of memo would be appropriate for this exercise.

This Certification Corner article intends to give further clarification to what components are needed to pass the memo. There are multiple elements being tested in the certification memo exercise:

- Candidate’s ability to communicate effectively and efficiently with a project manager or other executive.
- Candidate’s ability to perform analysis and make a recommendation with incomplete or conflicting information. And,
- Candidate’s ability to follow instructions and formatting.

The ability to follow instructions and formatting are simple “free” points. The instructions direct you to prepare a memo. We all recognize that memo’s went out with the typewriter and have effectively been replaced by e-mail, but a memo is what you (the candidate) are instructed to compose.

The format for a memo is as follows: To, From, Date, Subject, and Project Name. Using the memo format in your response will gain you simple “free” points. Additionally, memo format starts with the body of the memo, not a salutation or a valediction, e.g. Dear Sir or Sincerely. To include Dear Sir or Sincerely in your memo will lose “free” points, because it is not a part of the memo format.

The ability to communicate effectively and efficiently with a project manager is a significant portion of the communications exercise. Assume you are communicating with a project manager that does not have as much knowledge of the subject matter as yourself. You have one typewritten page to educate the project manager, explain the issues and propose a solution regarding the problem on a project.

This communications exercise is ideally a five paragraph memo that is no longer than one page. The memo should take the following general format:

- Introduce the problem;
- Discuss potential solutions;
- Perform an analysis;
- Make a recommendation based upon the analysis; and,
- Close the memo.

In the introduction, grab the project manager in the first sentence with the issue at hand and its importance to the project. This sets the stage for the rest of the memo. What is the issue that needs a decision or needs to be addressed? Provide additional information as required to educate the project manager on your subject matter area if necessary.

Second paragraph, discuss potential solutions to the problem. There are potential solutions provided in the writing exercise. If you decide the potential solutions are not “complete” and you have a “better” solution, then you may add that solution to your memo. You should still address the solutions provided in the exercise.

Once the potential solutions have been dis-
cussed, a recommendation which is based upon the data provided should be presented. Remember part of this exercise is to deal with data that is “imperfect” or conflicts with other data. The recommendation should address all the data and describe why you chose to discount some of the data that was provided.

Finally, close the memo. Summarize the memo and what has been discussed; offer to provide additional information as necessary.

In summary, this communication exercise is an exercise to communicate effectively with a project manager in one page using a specified communication format. Address the decision to be made or the issue to be addressed. Discuss potential solutions to the problem from which the project manager should choose. Analyze the data and provide a recommendation to the project manager. Finally, summarize and close the memo with the offer to provide the project manager with additional information as required. Good Luck!

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FEDERAL AGENCY ROUNDTABLE REGISTRATION IS NOW OPEN
8:30 am - 12:30 pm
October 17, 2014
Washington DC

AACE’s Government Liaison Committee is pleased to announce the Fall 2014 Federal Agency Roundtable, scheduled for 8:30 a.m. – 12:30 p.m. (Eastern time), on October 17, at the District Architecture Center (Washington Chapter AIA), 421 7th St. NW, Washington, DC. The focus of the roundtable discussion, which will be facilitated by officers of the Association, will be, “The Benefit of Professional Certifications in Support of Government Contracting.”

According to the current chair of Government Liaison Committee, AACE Past President (2011-2012) Michael Nosbisch, “Over the past several years, many federal agencies and the prime contractors that support them have begun to incorporate requirements for professional certifications into their solicitations for new contract/subcontract opportunities. In addition, some of the same entities have also begun to require that their own employees attain professional certification(s) either as an initial hiring prerequisite or as part of an internal professional development program. The Roundtable offers a forum to hear from those in the government contracting community who have implemented such requirements concerning whether a mandated certification requirement has truly added value, either in terms of improved project/program performance, reduced costs, or some other, more subjective measure. Federal agencies and their contractors who have not yet decided to require professional certifications, either internally or externally, will be able to learn from the experiences from those who have, before deciding whether to implement the practice themselves.”

Ruth Dorr, chair of the Federal Agency Roundtable Subcommittee, added, “In addition to federal agencies and prime/subcontractors, AACE encourages the participation of other professional associations who offer professional certifications to be represented at this Roundtable discussion, so all will be able to understand the expectations of both elements of the government contracting community as a way to potentially improve their individual certification programs.”

Registration is free of charge for federal government employees. There is a $35 fee for AACE members ($50 for non-members) who are not federal government employees. To register, visit: www.aacei.org/aboutUs/news/2014/2014-09-15.shtml
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Experience AACE International quality technical program and presentations against the backdrop of Thailand’s beautiful city of Bangkok. The 2014 International Total Cost Management Conference is the second educational conference offered by AACE International outside of North America and is a continuing part of AACE International’s commitment to offer the best technical knowledge and educational services worldwide.

This two-day event will feature a keynote session by renowned adventurer and speaker Mr. Khoo Swee Chiow, followed by two tracks of technical presentations based upon the same rigorous peer-reviewed process that you’ve come to expect from AACE International.

Visit www.aacei.org/mtgs/ITCMC/ for more information.
Laura Williams was born in La Jolla, CA, growing up in the seaside community of Oceanside. She grew up camping and exploring with her family and with Girl Scouts. Getting the backpacking bug early in her teens taught her the value of planning ahead and paying attention to details. Little did she know that would begin her training to become a project controls professional.

She graduated with a Bachelor of Science degree from California Polytechnic State University, San Luis Obispo, and upon graduation, taught junior high and high school.

Laura got into the project controls field quite by luck. She was returning to California as a teacher, at a downturn time in public education. Looking for a new challenge, she accepted a position as a planner/scheduler with Lockheed Martin (Martin Marietta) at Vandenberg Air Force Base, doing planning and scheduling for the west coast launch site for the Space Shuttle program. She was hooked. Putting together project network diagrams and then making them fit into the goals of the client was like putting together a puzzle. It turned out to suit her style perfectly.

At the conclusion of that project, she transferred to Denver to work on the proposal for the Space Station program, and then transferred to New Orleans to participate in the External Tank project in support of the Space Shuttle program. During these years, she was a planner, scheduler, master scheduler, EV analyst, and trainer of critical path method and the scheduling tools which supported it. After the years with Lockheed Martin, she provided consulting services for a small firm (Project Management Methodologies), providing project management consulting and training to companies in a wide variety of business sectors. After many successful years with PMM, Laura chose to dive into the energy business sector with the engineering consulting company, EDG, Inc., based in Metairie, LA. She

Laura has strived to push herself professionally by pursuing certifications and volunteering in professional organizations and, on a personal level, by training for and competing in triathlons. Her advice—seek opportunities to get out of your comfort zone! Get involved with AACE International, volunteer, and network. Find new challenges and set goals. You will never know what will come of it!
Laura is thankful for finding a rewarding career that continues to challenge and demands staying current. Keeping your brain from idling in neutral, keeps you motivated—even after 30 years. She also credits those who over the years believed in her and gave her opportunities to stretch.

is a project controls lead, providing risk analysis, scheduling and cost controls for a variety of projects funded by major oil companies. The projects have been as diverse as providing the scheduling support for a new venture in Madagascar, to providing the scheduling and controls for the engineering of the renovation of a platform that had been devastated by fire in Angola.

Throughout all of these years, and before she knew of AACE International, Laura was very active with PMI and a committee member of the PMI Scheduling Excellence Initiative. It was through her fellow committee members, that Laura became aware of AACE International. She found AACE to be custom tailored to the career she has followed. As she tells potential members, the journals alone are worth the price of the yearly membership. Even after a 30 year career, she is looking to pursue an AACE International certification.

As an AACE International newbie, she very much looked forward to the 2014 Annual Meeting in her own neighborhood of New Orleans, Louisiana. The conference provided practical presentations that can only help to provide benefits to her clients. She also looked forward to the networking opportunities.

She is thankful for finding a rewarding career that continues to challenge and demands staying current. Keeping your brain from idling in neutral, keeps you motivated—even after 30 years. She also credits those who over the years believed in her and gave her opportunities to stretch. Laura tries to provide the same for the excellent talent that surrounds her at EDG, Inc.

Laura has strived to push herself professionally by pursuing certifications and volunteering in professional organizations and, on a personal level, by training for and competing in triathlons. Her advice—seek opportunities to get out of your comfort zone! Get involved with AACE International, volunteer, and network. Find new challenges and set goals. You will never know what will come of it!

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Dr. Alexia Nalewaik, CCP, is set to be inaugurated as Chair of the International Cost Engineering Council at the ICEC World Congress in Milan in October 2014. Since 2008, she has served ICEC as Senior Vice-Chair, Administrative Vice-Chair, and Alternate Representative for AACE International.

Dr. Nalewaik is Principal Consultant of QS Requin Corporation. She is a project controls director and quantity surveyor with over 20 years of risk management, owner representation, and cost management experience. Her technical research, consulting work, and publications include project audit, cost management, risk assessment, and performance improvement for capital projects, facilities management, and organizations.

The International Cost Engineering Council (ICEC) is an non-political and non-profit organization, founded in 1976, with the objective of promoting cooperation between national and multinational cost engineering, quantity surveying and project management organizations worldwide for their mutual well being and that of their individual members. ICEC member societies are located in more than 40 countries, and have chapters or sections in many additional countries. Through these chapters and sections, ICEC has access to more than 120,000 cost engineers and project managers in over 120 different nations. AACE International is one of the founding members of ICEC.

Dr. Nalewaik currently serves AACE International as Inter-organization Chair, and is a member of the RICS Americas Governing Board. She has served AACE International since 2004 as Vice President - Administration, Director - Region 6, Chair of the Women in Project Controls Task Force, two terms as President of the Southern California Section, and member of the Governance Task Force, Ethics Task Force, and Executive Director Search Committee. Prior to her service with AACE International, ICEC, and RICS, she spent 14 years in various positions on the boards of the American Society of Civil Engineers, with the Los Angeles Section, Metropolitan Los Angeles Branch, and the Western Region.
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The AACE Career Center is the most effective way to find leading practitioners in the total cost management profession. Unlike generic job posting services, AACE International commits to not only helping you hire the best person for your position, but also helps you develop that individual to their fullest professional potential by offering a complimentary AACE International membership for the balance of the year the person is hired or a $150 discount toward registering for an AACE International credential such as CCP, CEP, CFCC, EVP, or CCT.*

About AACE International
Since 1956, AACE International has been the leading-edge professional society for project managers, schedulers, cost estimators, cost engineers, and project control specialists. AACE International is the authority for total cost management. Promoting the planning and management of projects, programs, and portfolios, AACE International is the largest organization serving the entire spectrum of project management professionals. AACE International is industry independent, and has members in over 80 countries.

*A in order to qualify for this incentive, your company must advertise an employment position with AACE International’s Career Center for at least two months. Once you hire a person for that position, regardless of the source, AACE International will give you the option of either having that new person’s membership paid for the balance of the year or a $150 credit toward the new hire earning his or her AACE International credential. This is non-transferable. Should the person you hire already be a member in the current year, we will extend their membership for another full year. New hires made after October 1 will receive membership benefits for the balance of the current year plus the entire next year. If you are not familiar with the many benefits of being an AACE International member, we invite you to review our online membership presentation at www.aacei.org/mbr/presentation/
In today’s complex, litigation-prone business environment, individuals with the proven capability to assess risk and guide organizations to the best decision possible are in high demand. AACE International’s new Decision and Risk Management Professional™ (DRMP™) certification program establishes credentials that recognize professional expertise, skills and knowledge in the decision and risk management area of practice within cost engineering.

If you desire to be recognized for strong skills and knowledge in decision and risk management as it relates to project management, the DRMP certification was made for you.

Candidates may include but are not limited to risk managers, decision and risk management consultants, capital program managers or planners, project managers, value engineers and any cost engineering professionals focusing on asset and project decision and risk management.

Skills and knowledge range from analytical (e.g., statistics and modeling) to socio/psychological (e.g., risk elicitation and communication) to management (e.g., risk response planning and management).

For more information about the new AACE International DRMP certification, go to www.aacei.org/cert
Stuart Johnson is a cost engineer who currently works for Jacobs Engineering. A native to Baton Rouge, Louisiana, Stuart has held a number of different positions that uniquely prepared him for his current role, including service in the Army, time as a field engineer—and most recently, time as a cost engineer.

While in the Army, Stuart specialized in hydraulic systems on heavy-wheeled armored personnel carriers, and was squad leader/NCOIC on the contact and recovery team in Fort Campbell, Kentucky. In the fall of 2005, however, just three weeks after his home state of Louisiana was devastated by Hurricane Katrina, Stuart was deployed to Iraq as a member of the 101st Airborne Division. Having joined the Army two years earlier, his deployment lasted for 14 months, spanning from September, 2005, to November, 2006, during which time he achieved the rank of Corporal.

Upon returning to Louisiana, Stuart became interested in the infrastructure repairs and improvements being made to his region by the Army Corps of Engineers, in the wake of Hurricane Katrina. In 2008, he returned to Louisiana State University to finish his Bachelors of Science degree in Construction Management, after which he went to work for a local construction company building pumping stations and interstate/rail bridge expansions in and around New Orleans.

After working as a field engineer, Stuart made the transition to Industrial Engineering and construction, and is the industry in which he now works. He has attained the Oracle Primavera P6 Certification as well as the Pathfinder Capital Plant Project Controls Certification, and uses them in his role as a Lead Cost Engineer. Stuart has been active on various petroleum refining projects ranging from $27MM to $124MM, including a FCCU Head Optimization project, a slide valve replacement project, a Single Stage Once Through project, and a Light Crude Unit Upgrade. Stuart’s responsibilities at Jacobs Engineering also include loading project professional service budgets into engineering cost systems, analyzing engineering cost report data, ETCs, and forecast information, processing change orders and maintaining change log registers, producing margin analysis for projects,

Having the opportunity to network and see how different software is implemented by other project controls professionals across the region has been advantageous for our section. Being an active member of AACE definitely makes you stand out among your peers.
Stuart admits that being, “part of a team and watching a project grow from the feasibility stage through detailed design and construction has been very rewarding,” and was an attraction to this line of work.

and assembling the monthly internal administrative reports within a project.

Stuart admits that being, “part of a team and watching a project grow from the feasibility stage through detailed design and construction has been very rewarding,” and was an attraction to this line of work. He was also encouraged to pursue his career path by his cousin, Kevin Johnson. Kevin was a Company Commander at Fort Campbell, Kentucky, for the 506th Infantry Regiment, which is also in the 101st Airborne Division, and is famously remembered as the “Band of Brothers” Battalion. Upon retiring, Kevin entered the world of construction management in the New Orleans area. Along with Kevin, Stuart also had several other cousins who went into the field of project controls for various companies in the region.

When asked how being associated with AACE International has added value to his professional development, Stuart explained that, “Having the opportunity to network and see how different software is implemented by other project controls professionals across the region has been advantageous for our section.” Further, Stuart acknowledges his belief that, “Being an active member of AACE definitely makes you stand out among your peers.”

◆

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According to Dennis Stork, AACE International Executive Director, “AchieveLinks maximizes the value our members get from their membership while increasing their engagement with AACE International. AchieveLinks rewards our members for purchases they make every day whether for personal or professional reasons. The AchieveLinks reward points can really add up—and be redeemed for an impressive array of rewards. With hundreds of merchants to chose from, the options literally range from A-Z with members being able to buy from companies as wide ranging as Adidas to Zales. Not only do our members benefit with rewards points, but the Association will earn non-dues income to help diversify income sources for future benefits.”

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Putting together a successful career as a practitioner in Total Cost Management can be a challenging puzzle. Thousands of motivated individuals throughout the world find themselves in need of advice and guidance from more experienced professionals. Rather than allowing young professionals to flounder, AACE International embraces a structured Mentoring Program to match experienced TCM professionals with the protégés who need them the most.

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Schedule Update Analysis: Retained Logic Versus Progress Override

Devdas K. Tamboli, CCP PSP, Julie K. Owen, CCP PSP, and Ahmad Ali Ahmad Alkuwari

Abstract: Construction industry standard schedule specifications most often require retained logic as the schedule calculation setting when updating the schedule. Use of this calculation setting can sometimes prove problematic when out of sequence progress occurs and result in inaccurate information and artificially impacted float values. The progress override calculation setting can also be problematic because using this method ignores predecessor schedule logic for activities in progress. Owners prefer retained logic and contractors prefer progress override. These differing viewpoints can impact the validity of the project schedule. This article will evaluate the pros and cons of using each calculation method, typical scheduling specification language, and give industry examples. The impact of using each method will be evaluated for proper schedule updates and delay claim analysis. Finally, recommendations will be offered for use of progress override when correcting out of sequence schedule logic is not possible. This article was first presented as PS.1357 at the 2013 AACE International Annual Meeting in Washington, DC.

Key Words: Measured Mile, claims, construction, and labor productivity

Schedule development is a process where activities are identified and then network logic is applied before duration estimation occurs. Schedule logic identifies the dependency relationships between activities within a schedule and thus the work sequence to be followed while executing the project. There are four possible relationships between activity start and end and those of other activities.

- **Finish-to-Start** (FS): First activity must finish before second activity can start.
- **Start-to-Start** (SS): Two activities start at the same time.
- **Finish-to-Finish** (FF): Two activities must complete at the same time.
- **Start-to-Finish** (SF): Activity must start before second activity can finish.

Activities can be linked with hard logic or soft logic. Hard logic is used where activities must follow a prescribed sequence and is often dictated by physical restraints, such as footings must be constructed before walls or columns. Soft logic represents preferential logic relationships that are not physically required, but are preferred, and often carried out in a different order upon execution.

Sometimes soft logic linked activities begin without following predecessor schedule logic. When actual schedule progress occurs for activities that should not logically start, based upon predecessor logic, this is termed “out-of-sequence progress.” There could be various reasons for out of sequence progress, such as an error in the relationship of the original plan or the successor activity started early to provide steady work flow to equipment and crew. Out of sequence often occurs on construction projects, thus management methods must be developed to address the situation. Oracle Primavera P6™ has different schedule calculation options, including retained logic, progress override, and actual dates. These settings are shown in figure 1.

As long as schedule progress occurs as planned there is no difference in schedule calculation results comparing the three methods. When actual progress is not consistent with planned schedule logic, then out of sequence occurs and there could be notable differences between schedule calculation options. Methods are required for managing retained logic or
progress override, as these calculation options will cause differing results and could result in inaccurate dates and impact delay analysis of in progress schedules.

Analysis

**Retained Logic** (RL): The retained logic schedule calculation setting holds schedule logic constant during calculation of in progress schedules. The calculation adds activity remaining duration in the forward pass calculation for early dates and waits until activity predecessors are completed. Figure 2 shows a demonstration of RL option results with different logical relationships.

Figure 2 illustrates that when the retained logic calculation setting is used, it has impact on completion of the date of activity 2 when using the FS relationship. For both SS and FF relationships there is no effect on the remaining early start and completion date of the Activity 2. The completion date of activity 2 is calculated based on its own remaining duration. However when using a FF relationship, Activity 1 is rendered not critical and has total float equal to difference between early finish dates of Activity 2 and Activity 1.

**Progress Override** (PO): When the progress override schedule calculation option setting is used, Oracle Primavera P6™ ignores the predecessor activity relationships and calculates the activity completion date based on its own remaining duration, as shown in figure 3.

Figure 3 displays when the progress override option is selected that all predecessor logic for the out of sequence activities is ignored for every relationship type and the remaining early start of Activity 2 is equal to the data date. Activity 1 and Activity 2 remaining start and finish dates are calculated solely by adding remaining duration to the data date. Also, in all cases, Activity 1 is no longer critical and has total float equal to the difference between early finish dates of Activity 2 and Activity 1.

**Actual Dates** (AD): When the actual dates schedule calculation option setting is used, Oracle Primavera P6™ sets the late finish date of the predecessor activity one day before the actual start of the out of sequence activity. This normally creates negative float to predecessor activities.

Figure 4 illustrate that the actual dates option is creating negative float for the predecessor activity in case of FS and SS relationships. However, in the case of a FF relationship, the finish date of the predecessor activity is 1 day before its successor activity. The actual date calculation on FF relationships removes
Figure 2 — Demonstration of Retained Logic Option Calculations

RL with FS Relationship

RL with SS Relationship

RL with FF Relationship

Figure 3 — Demonstration of Progress Override Schedule Calculations Option

PO with FS logic

PO with SS logic

PO with FF logic
the activity from the critical path and results in 50 days of total float. This schedule calculation setting is not widely used because of its tendency to create negative float in both FS and SS relationships.

Both retained logic and progress override schedule calculation settings are universally used across many industries. It is imperative to understand that each of these schedule calculation settings will yield a different result, especially for out of sequence progress activities. In the case of out of sequence progress, AACE Recommended Practice 49R-06, Identifying the Critical Path, suggests the use of retained logic schedule calculation because progress override can create orphaned predecessor activities and disregard logical constraints. Further, AACE RP-49R-06, recommends if the retained logic method produces poor or inaccurate results, then the schedule network logic must be corrected. In some cases, it is not practical to make changes to schedule logic before every schedule update submission for various reasons. These can include specification requirements requiring approval of changes, the large number of activities, and/or insufficient resources.

**Schedule Specifications**

The scheduling specification defines schedule development and update mechanics. Typically, they are prepared by the owner and distributed to the contractor. Industry practice in the west is for scheduling specifications to become contract documents. However, in other areas of the world, scheduling specifications are issued as a guideline to follow without any contractual implication.

In western contracts, schedule calculation settings are commonly specified for construction projects within the bid documents and can be found in the schedule specification. In this case, it is common for owners to specify the use of retained logic and correction of logic for out of sequence progress. Review of schedule specifications in other areas of the world does not consistently reflect inclusion of schedule calculation requirements. When specifically mentioned, these specifications favor retained logic over progress override.

Los Angeles Metropolitan Transportation Authority, (LA Metro), requires that schedule networks must use retained logic CPM precedence diagram methods of scheduling. When activities are worked out of sequence, compared to the logic of the baseline CPM schedule, this logic will need to be revised as necessary in schedule update submissions. All logic revisions must be explained in the written narrative. Western owners also typically specify the requirements for approval of schedule changes, whereby schedule logic changes must be pre-approved. LA Metro requires that any schedule changes, including changes to the logic sequence, or activity durations and the impacts to the overall contract, must be explained. The contractor must meet monthly, prior to schedule submission, to explain changes to the schedule.

Schedules that use the retained logic calculation, when not managed properly, will reflect erroneous completion dates—especially if out of sequence progress is not corrected. In these cases, the calculated early dates of
successor activities following the out of sequence activities will have incorrect dates.

In Middle Eastern countries, most of the schedule specifications do not cover handling out of sequence progress. Some specifications specify the use of retained logic, but do not require logic correction of out of sequence activities. Kahramaa (Qatar General Electricity and Water Corporation) and Limitless (Dubai UAE) schedule requirements do not mention handling out-of-sequence activities. The Lusail Development schedule specification in Qatar does mention retained logic, but again is silent with reference to out-of-sequence activities and any required logic corrections.

**Industry Examples**

**Example 1**

**RL Vs PO Impact on Schedule Updates**: Figure 5 is an industry example of a schedule baseline and subsequent update comprising a few activities to demonstrate the different schedule calculation results based on the retained logic and progress override calculation settings.

In figure 5, the schedule fragment comprises design and construction activities. According to the baseline, the project start date is 22-Jan-13 and the completion date is 12-Aug-13. Schedule logic is applied where no construction activity will start unless construction drawings are issued.

Figure 6 reflects actual progress of the same schedule fragment displaying that, as of 24-Mar-13, the contractor received comments on rev0 drawings and submitted rev1 as per schedule. However, the in-progress activity is delayed. The contractor commenced excavation on 17-Mar-13, out of sequence and ahead of schedule, compared to the baseline. Schedule logic has not been revised to reflect the out of sequence progress and as a result reflects 11 days of delay.

Figure 7 depicts the change in schedule calculation, when corrections are made to the out of sequence schedule progress activity prior to scheduling. Schedule logic corrections could include either changing the relationship type between drawing

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**Figure 5 — Industry Example Sample Baseline**

**Figure 6 — Industry Example Schedule Update**
approval and excavation from FS to SS or removing the relationship in its entirety. In this case, the remaining early start date of excavation activity will change to 28-Mar-13, and so the completion of this activity became 10 days prior—but it is still showing negative float of -1. If excavation is delinked from the issue for construction activity, and linked to the approval/comment on rev 1 activity with a FS link, then the same calculation result occurs and the remaining early start date will be the same (28-Mar-13).

Figure 8 illustrates the updated schedule activities with the excavation activity linked to the approval/comment on rev 1 activity with a SS relationship. In this case, the schedule reflects mitigation efforts by the contractor and provides 3 days float to future activities.

Figure 9 reflects a schedule update as calculated with progress override and no schedule logic corrections. In this case, the excavation activity—which is occurring out of sequence, ignores the logic of its predecessor and is progressed as if work is occurring on site. Amazingly, the results are same as the results we got using retained logic by linking excavation of the approval/comment on the rev 1 activity.

Example 2
The following examples are from a project in progress in Qatar regarding substation construction. In this case, schedule specifications are silent on the use of retained logic or progress override and the contractor is free to choose. Schedule specifications are stringent regarding submission of monthly updates and pre-approval of schedule logic changes. In order to obtain approval of schedule logic changes, the contractor must follow a prescribed and lengthy process. The contractor is working out of sequence in an effort to complete the project earlier than planned.

Figure 10 displays the October 25, 2012 schedule update from the contractor using retained logic without revision of out of sequence progress. This update reflects that the ‘Relay Control Panels’ activity is occurring out of sequence and is driving the project completion date. This activities predecessor is incomplete for activity ‘AFC’. This schedule displays incorrect early date calculation for all downstream activities on the critical path to project completion and reflects critical path delay of -50 days. In an effort to mitigate the relay control panels activity has started early, but mitigation efforts are not shown by calculated dates because
Figure 9 – Industry Example Reflecting Progress Override

<table>
<thead>
<tr>
<th>Activity Name</th>
<th>Original Duration</th>
<th>Remaining Duration</th>
<th>Activity % Complete</th>
<th>EL Project Start</th>
<th>EL Project Finish</th>
<th>Start</th>
<th>Finish</th>
<th>Total Float</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>190</td>
<td>125</td>
<td>100%</td>
<td>23-Jan-13</td>
<td>06-Aug-13</td>
<td>23-Jan-13</td>
<td>06-Aug-13</td>
<td>3</td>
</tr>
<tr>
<td>Submit to client rev 0</td>
<td>14</td>
<td>14</td>
<td>100%</td>
<td>23-Jan-13</td>
<td>06-Aug-13</td>
<td>23-Jan-13</td>
<td>06-Aug-13</td>
<td>3</td>
</tr>
<tr>
<td>Comments on Rev 0</td>
<td>14</td>
<td>14</td>
<td>100%</td>
<td>23-Jan-13</td>
<td>06-Aug-13</td>
<td>23-Jan-13</td>
<td>06-Aug-13</td>
<td>3</td>
</tr>
<tr>
<td>Approve comment on rev 1</td>
<td>14</td>
<td>14</td>
<td>100%</td>
<td>23-Jan-13</td>
<td>06-Aug-13</td>
<td>23-Jan-13</td>
<td>06-Aug-13</td>
<td>3</td>
</tr>
<tr>
<td>Issue for Construction</td>
<td>10</td>
<td>10</td>
<td>100%</td>
<td>23-Jan-13</td>
<td>06-Aug-13</td>
<td>23-Jan-13</td>
<td>06-Aug-13</td>
<td>3</td>
</tr>
</tbody>
</table>

Figure 10 — Industry Example 2, 25-Oct-12 Update with Retained Logic Calculation

<table>
<thead>
<tr>
<th>Activity Name</th>
<th>Original Duration</th>
<th>Remaining Duration</th>
<th>Activity %</th>
<th>Start</th>
<th>Finish</th>
<th>Remaining Early Start</th>
<th>Total Float</th>
</tr>
</thead>
<tbody>
<tr>
<td>11kV NER</td>
<td>5</td>
<td>5</td>
<td>0%</td>
<td>23-Sep-12 A</td>
<td>24-Sep-12 A</td>
<td>23-Sep-12 A</td>
<td>1</td>
</tr>
<tr>
<td>HV/EHV cable testing</td>
<td>4</td>
<td>4</td>
<td>0%</td>
<td>20-Sep-12 A</td>
<td>20-Sep-12 A</td>
<td>20-Sep-12 A</td>
<td>0</td>
</tr>
<tr>
<td>Substation Control System</td>
<td>41</td>
<td>41</td>
<td>0%</td>
<td>05-Sep-12 A</td>
<td>17-Dec-12 A</td>
<td>07-Nov-12 A</td>
<td>19</td>
</tr>
</tbody>
</table>

...
out of sequence progress logic was not corrected.

Figure 11 displays the October 25, 2012, schedule update using a progress override calculation. The ‘Relay and Control Panel’ activity which has started out of sequence has its remaining early dates calculated by ignoring incomplete predecessor logic. The schedule mitigation results are shown and the contract completion reflects early completion by 33 days.

Figure 12 displays the November 25, 2012, update using a retained logic calculation. The ‘relay control panels’ activity and many of its successors that were driving the project completion date are completed, however, the ‘AFC’ predecessor is still in progress and delaying the project completion by 3 days.

Figure 13 displays the November 25, 2012, update using a progress override calculation. Incomplete predecessor logic is ignored and the completion date is calculated based upon the remaining duration of in progress activities and their successors. Contract completion reflects an early completion of 69 days.

Figure 14 reflects the December 15, 2012, update calculated with a retained logic calculation. Most activities are completed, so out of sequence progress is not a factor. The schedule that was showing delay the prior month now reflects early completion by 60 days.

Figure 15 displays the December 15, 2012, update using a progress override calculation. Again, incomplete predecessor logic is ignored and the completion date is calculated based upon the remaining duration of in progress activities and their successors. Contract completion reflects an early completion of 69 days.

All of these examples illustrate the vast difference in calculated dates that are possible when using retained logic versus progress override schedule calculation, especially when out of sequence progress is not corrected. When using the retained logic calculation there were false delays reflected for two updates and then suddenly reversed when nearing project completion. In each example where progress override calculation was used, a projected early finish for the project was reflected.
Pros and Cons of Using Retained Logic vs Progress Override

Information on the pros and cons of using retained logic vs progress override is shown in table 1.

**RL vs PO Impact on Claim Analysis:**
Understanding implications of retained logic versus progress override is very important regarding delay analysis. The following discusses forensic scheduling options as outlined in AACE Recommended Practice 29R-03, Forensic Schedule Analysis.

A) Planned Vs Actual or Plan Vs As Built:
This is the simplest method of delay analysis in which the actual progress is compared with planned and the difference considered. Often this is a post mortem analysis prepared after delay events to identify the difference between planned and actual. Normally the use of either retained logic or progress override calculation options will not impact delay evaluation since primarily the delay is analyzed based upon the difference between planned duration and actual duration of either an individual activity or project.

B) Impacted Baseline or Impacted As Planned:
In this delay analysis method, the delay event is inserted in the as planned schedule to identify its impact on the overall completion date. This delay analysis method may establish good results especially when there is not much deviation between planned and actual progress. However, when actual progress differs from as planned and activities occur out of sequence, then this method will likely produce inaccurate results. This delay analysis method is also not adversely impacted by retained logic or progress override as it often is a post mortem analysis reviewing the baseline without impact of out of sequence progress.

C) Collapsed As-Built or As-Built Less Delay:
This delay analysis method uses the as-built schedule for evaluation of delays. Delay events are subtracted...
from the schedule to review impact on progress of work. This method considers how original logic changed compared to baseline logic. When developing the as built schedule it is very important to correct out of sequence logic to obtain accurate results.

D) Window Analysis or Contemporaneous Period Analysis: This delay analysis method uses the project schedule updates to quantify the loss or gain of time along logic paths and identify activities responsible for critical path impacts. Although this method is retrospective, it relies on the forward-looking calculations made at the time the updates were prepared and to the right of the data date. Schedule updates are taken at an interval based on the frequency of updates on the project and as data are available. This technique does not involve the insertion or deletion of delays but instead is based on observing the behavior of the schedule network from update to update and measuring schedule variances based on unaltered, existing schedule logic.

This method relies on comparing the critical path of one update to a subsequent update. In this case, correction of out of sequence logic for retained logic calculations is required to obtain accurate results. This AACE Recommended Practice does allow minor changes to the contemporaneous schedule and modifying logic for out of sequence activities.

E) Time Impact Analysis
The TIA is a ‘forward-looking,’ prospective schedule analysis technique that adds a modeled delay to an accepted contract schedule to determine the possible impact of that delay to project completion. In this method of analysis, a fragment of delay events is created and inserted in the schedule update that is closest to the delay event. After adding the fragment of delay events into the schedule, the schedule is analyzed to determine the difference between the unimpacted schedule and impacted schedule. Any difference is established as the effective delay.

![Figure 13 — Industry Example 2, 25-Nov-12 Update with Progress Override Calculation](image)
Retained logic calculation and correction of out of sequence progress logic is required to analyze the pure delay between the two schedules. **AACE Recommended Practice 52R-06, Time Impact Analysis: As Applied in Construction,** discusses the importance of out of sequence schedule logic correction and the effect of retained logic in CPM calculations. Progress override will ignore predecessor schedule logic and introduce additional float into the calculated schedule. It is imperative to correct out of sequence schedule logic to obtain true date calculation when using retained logic to analyze delays throughout the progress of the project.

**Recommendation**

As established in several examples, out-of-sequence progress is a common occurrence and schedule quality control procedures and specifications are needed to address the matter. When schedule specification language does not exist, problems pursue and differing stakeholders posture to benefit. The industry examples provided illustrated that when out of sequence work is not managed, the scheduling calculation results do not reflect actual progress, and logic corrections are required to accurately reflect the true picture. Where out of sequence schedule logic corrections are not made, then progress override may be used to obtain better calculated date results. However, scheduling industry best practice recommends use of retained logic and correction out of sequence progress.

For delay analysis purposes, it does not matter what calculation options are chosen when using the planned versus actual and impacted baseline or collapsed as-built analysis methods. However, when performing contemporaneous delay analysis using either the windows technique or time impact analysis, the retained logic calculation and out of sequence progress logic correction is required.

**Conclusion**

Schedule calculation options for both retained logic and progress override are important and when not managed properly can result in inaccurate results for in progress schedules. Scheduling best practice
requires the use of both the retained logic calculation and correction of out of sequence progress schedule logic.

Schedule specification language is required to identify the schedule calculation method and correction of out of sequence progress logic. It is important to understand the impact of retained logic or progress override calculation options when performing delay analysis contemporaneously when using the windows or time impact analysis methods.

Contractors may fail to correct out of sequence schedule logic as a result of personnel skill sets, availability of resources, and contract clauses requiring protracted schedule logic approval processes. Where out of sequence progress schedule logic corrections are not made then progress override calculation is advised to obtain more realistic calculated date results.

REFERENCES
1. AACE International, Recommended Practice No. 10S-90, Cost Engineering Terminology, AACE International, Morgantown, WV.
2. AACE International, Recommended Practice No. 24R-03, Developing Activity Logic, AACE International, Morgantown, WV.
3. AACE International, Recommended Practice No. 49R-06, Identifying the Critical Path, AACE International, Morgantown, WV.
5. Oracle Primavera P6 Enterprise Project Portfolio Management.
9. AACE International, Recommended Practice 29R-03, Forensic Schedule Analysis, AACE International, Morgantown, WV.
10. AACE International, Recommended Practice 52R-06, Time Impact Analysis – As Applied in

Figure 15 — Industry Example 2, 25-Dec-12 Update with Progress Override Calculation
Pros | Retained Logic is the most preferred method because logical relationships of activities are respected. When out of sequence logic is corrected the retained logic calculation option gives the most accurate results than any other option.

Cons | Retained logic reflects an inaccurate display of activity early dates where out of sequence activity logic is not corrected. This may also result in changing the project critical path based upon incorrect calculation. The out of sequence progress on the critical path could also reflect an inaccurate delayed project completion. From the contractor’s point of view too much time is required to identify and address out of sequence activities and especially for large schedule networks. Correcting schedule logic becomes tedious and may not be limited to out of sequence activities. Further, schedule results may not be enhanced appreciably especially when compared against providing all scheduling resources necessary to correct the out of sequence logic.

Progress override allows out of sequence progress by ignoring predecessor relationship logic. Contractor’s support that the same schedule calculation results are gained utilizing progress override without expending unnecessary resources to correct out of sequence logic. It is an easier approach with minimal extra efforts required to deal with out of sequence activities.

Progress override disregards the activity original logic. It also adds total float to the predecessor activities by ignoring the logic with out of sequence activities. In cases of critical path activities progress override will increase float available and offset delays.

Table 1 — Retained Logic Versus Progress Override

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Arizona Section

The AACE International Arizona Section’s July 2014 Board Meeting was held on Friday, July 11, 2014 via conference call in Phoenix, AZ. Arizona Section Officers in attendance were Marina Sominsky, Chris Hudson, Daisy Culanag, Hannah Schumacher, Mike McKee, Marv Carson, Matt Chappell, and Charlene Mendoza. The discussion centered around planning for the next section meeting, website maintenance, and the importance of communication. The new 2014/2015 board discussed duties and responsibilities amongst the team.

The Arizona Section has completed the curriculum for the Fall 2014 Advanced Estimating CON483 class, which will be taught at ASU once again. The endeavor is being spear-headed by Arizona Section Secretary Matt Chappell.

Aurora Edmonton Section

The Edmonton Area Section organized its first BBQ event jointly with the American Society of Quality, Edmonton Section, on June 25, at the Hawrelark Park. It was attended by almost 30 members from each organization.

The event started at 5 p.m. with light snacks and refreshment served by the volunteers. After refreshment there was a half an hour for networking among the members of ASQ and AACE. At 6 p.m., the presentation by Dr. Sami Fahmy (sponsor of the event) started with sharing of a pamphlet among all attendees with bullet points on desirable and avoidable listening and speaking skills. He started his presentation on good listening skills, followed by good speaking skills, along with things to avoid while listening and speaking. The talk was very engaging and the crowd got completely involved in his talk, many participated explaining situations where they have used the skills mentioned by Dr. Fahmy.

At the end of the talk, he asked all the attendees to form
teams of five peoples each, so that he could have a small game among all the participants. The target was to see how information about projects travels from the lowest level in the chain of command to the top management.

The event was extremely successful and received positive feedback from the local section members. The AACE Aurora Edmonton Section plans to organize many more such events in the future. The President of the Section, Mohamed Abdelgawad, ended the event with a vote of thanks to all attendees. The Edmonton Section board met August 6 to plan it’s year of events.

**Brazil Section**

The Brazil Section in August promoted a Dispute Board Seminar in Sao Paulo, Brazil. Among the lecturers, James Perry, AACE former Director-Region 9. There were 120 attendees at the seminar. The keynote speaker was Mrs. Ellen Gracie, former Chief of the Brazil Supreme Court. The seminar was promoted

Dr. Samy Fahmy is shown making a presentation on effective communication to a joint Aurora Edmonton Section meeting with the American Society of Quality on June 25. The section plans to organize similar events in coming months.

Jim Perry, former Director-Region 9, was one of the lecturers at a Dispute Board Seminar in Sao Paulo, Brazil, in August. Members of the Brazil Section supported and promoted the event, and promoted AACE membership to the attendees.

Shown above at the Dispute Board Seminar in Sao Paulo, Brazil are, from left to right, AACE member Aldo Mattos, Roger Peters, one of the speakers; Ellen Gracie, former Chief of the Brazil Supreme Court, James Perry, former AACE Director-Region 8; Ruy Camargo and Macahico Tisaka, both from the Engineering Institute.
Chicago Midwest Section

On Friday, May 9, over 70 people attended the “Means and Methods of Scheduling Control” seminar, hosted by the Chicago Midwest Section at Oracle’s offices in Willis Tower in downtown Chicago. A fantastic turnout for the day-long program which included the following six presentations:

- Jim Zack, of Navigant Consulting, presented on two topics. First, Jim presented on, “Concurrent Delay – the Owner’s Newest Defense,” which focused on mechanisms owners can employ in response to contractors’ allegations of concurrent delay after the owner imposes a liquidated damages claim at the end of a delayed project. Additionally, Jim spoke on, “Senior Management Review of Project CPM Schedules,” during which Jim helped identify the appropriate level of detail needed to effectively communicate schedule status to senior management.

- Kristy Contreras, of Exelon Generation, Don Giegerich, CCP, of Critical Decision-Makers Group, and Noel McFarlane, Sr., of URS Corp, participated in a panel discussion on, “Scheduling Best Practices and Lessons Learned.” Kristy, Don, and Noel used their 100+ years of combined experience to provide methods to avoid the many tricks, traps, and ploys that can often lead to the misuse of scheduling tools.

- Garrett Harley, of Oracle, discussed, “The Evolution of Scheduling and Future Applications,” focusing on the im-

The Dispute Board Seminar in Sao Paulo, in August attracted 120 attendees, shown above.
Importance of specialization within engineering and construction.

- Robert Birdsall, of EPPM Professionals, presented on, “Managing the Complexity in Today’s Software to Produce Practical Scheduling Solutions.” Robert discussed in detail the complexity associated with certain data fields and various “automated” updating techniques and the challenges these issues can present.

- Lastly, Dave Koester, of BMW Constructors, discussed: “The Use of Project Controls and Defining Work Flow Streams for the BP 12 Pipe Still Outage Project.” Based on this complicated real-world project, Dave discussed the robust, yet not complicated, project controls used to help coordinate multiple contractors throughout the year-long project.

Additionally, AACE International Past-President, John Ciccarelli, attended and presented on the status of AACE International, highlighting some of the major efforts undertaken in the past year, as well as plans moving forward. Net proceeds from the event were to benefit the AACE Chicago Midwest Scholarship Fund, which provides scholarships to worthy Midwest college students.

**East Tennessee Section**

The East Tennessee Section met August 7, for a section meeting in Oak Ridge, TN. This lunchtime-scheduled meeting at The Golden Oak Grill Buffet enticed over 20 Section members to attend in the middle of a workday. (Tasty Asian-style cuisine will usually cause folks to make a case to attend a meeting!)

Guest speaker for August was Brent McGavin. Brent has modified and upgraded Primavera’s SDK Excel tool, which he demonstrated during his presentation. As Brent showed, this tool is a great improvement over Primavera’s standard Excel export utility, using it to quickly and easily create large quantities of P6 input in Excel, and then import it into P6. The SDK Tool can even be used to import MS Projects more accurately than the MS Project Import process in P6.

Mr. McGavin has been using computerized scheduling systems for 30 years. He has worked in Aerospace, Telecommunications, Software Development, Environmental Cleanup, D&D and Utilities industries, and also has specialized in Project Management Software integration with corporate IMS systems. His broad industrial experience enables him to review new projects and apply quick system solutions for them, to meet client’s needs.

**Hawaii Section**

The Hawaii Section received the Gold Section Recognition Award at the June 2014 AACE International Annual Meeting in New Orleans. This was momentous year for the Hawaii Section which was reinstated after years of inactivity. The criteria for the Gold Award included; Regional Director Contact, Elections, Section Meetings, Section Communication, Education and Certification, Marketing and Outreach, Scholarship and Student Outreach, and Awards. The Section Board was active by updating the bylaws, holding monthly board meetings and quarterly section meetings and social events. Under the leadership of Section President, Kristy Kastner, the membership increased 47 percent.

Over the summer, the Hawaii Section partnered with the local CMAA Hawaii Chapter for two mixers held on May 1, 2014 and June 26, 2014. Both groups benefited from holding a joint event. It was well attended with over 50 attendees.

In July, Section members were surveyed to gauge their interest in certification classes. The overwhelming majority of responses favored classes to attain the “Certified Cost Professional” (CCP) accreditation. The classes are tentatively scheduled for the first quarter of 2015. Please contact the section at aacehawaiisection@gmail.com if you are interested, or call David Ladines @ 808-947-6855 for further details.

“Risk Assessment from the Cost Estimating Perspective,” was presented at the section meeting on Friday, August 1.
Robert (Bob) Wells, CEP, presented an hour long talk on risk assessment. His presentation covered: definitions of risk, statistics, tools and methods, and concluding with, “risk thinking.” The session was well attended by over 20 section members and guests.

- **Norway Section**

  Tuesday Sept. 2, the Norwegian section arranged a half-day seminar, both for members and non-members. The seminar was arranged at Statoil’s amenities in Oslo. The board has prepared for the seminar since early 2014, and approximately 75 participants showed up.

  To motivate and simplify a round-table discussion during and after the presentations, the conference room’s tables were arranged to accommodate 5 – 8 persons per table.

  **President of the Norwegian Section** — Kristin Slaaen Rørvik (Statoil ASA) – opened the meeting by making an introduction.

  **Four speakers were invited to the seminar** — The first speaker was Kjetil Emhjellen, of Project Invest AS. He gave a presentation which focused on, “Cost Engineering and Competence Building.” His main focus was on the importance of cost engineering, and how AACE is an important tool in competence building both for individuals and companies.

  The second speaker was, Henning Oestvik, of Aker Solution, who presented, “Establishing and Maintenance of Estimating Tools.” His speech aimed at the importance of good estimating tools, and principles of development, maintenance and use of such methods generally and in the offshore industry particularly.

  The third speaker, Edvin Haavik, of Statoil ASA, gave a presentation on, “Schedule Risk Analysis (SRA),” where the main issue was to describe the way Statoil uses SRA to improve the quality of their execution schedules for large offshore projects.

  The fourth and final speaker in the seminar was, Håvard Skaldeboe, of Metier AS, presenting, “Schedule Performance Index (SPI).” This presentation described the excellence and success achieved by using productivity measurement and SPI on a mega project (process plant) in Abu Dhabi.

  Based on the success of the seminar, the Norway Section intends to make this type of seminar a regular yearly arrangement. Participants representing several different disciplines are a valuable contribution to expand and enrich/diversify the Norwegian section.

  Further ambitions for 2014 are to facilitate AACE certification and to make an effort to recruit more candidates for examinations.

- **Southern California Section**

  The September dinner meeting of the Southern California Section was on Tuesday Sept. 16. Attendees gathered at 5:30 p.m. for networking and cocktails. This was followed at 6:30 p.m. with dinner and a technical program. The topic was: “Building the Port of the Future,” and the presenter was, Peter Robert Forsythe. The meeting was at the Holiday Inn Long Beach Airport Hotel and Conference Center.

  Mr. Forsythe is a Deputy Chief Harbor Engineer in the Construction Management Division of the Engineering Bureau at the Port of Long Beach. Peter has been a member of CMAA since joining the Port in 2003. Before joining the Port, Peter worked in the Precast Concrete Industry in Southern California with Oldcastle Precast. Peter has also worked for Twining Laboratories in Long Beach in the Construction Materials Testing and Inspection business. Peter’s other experience in Construction Management was on Marine related work in Kuwait and Saudi Arabia in the early 1980s. He is a Registered Civil Engineer in California and has a Master’s Degree in Structural Engineering from California State University, Long Beach. Peter is a LEED Accredited Professional and was the Construction Manager for the Port of Long Beach’s first LEED building, the Security Command and Control Center on Pier F.

  Peter’s presentation explained the capital improvement program at the nation’s second-busiest container seaport. From the Gerald Desmond Bridge replacement to the Middle Harbor Terminal Redevelopment, to new Fireboat stations, the Port is modernizing and improving to the tune of $4 billion this decade. The Port is building to increase trade and dramatically reduce environmental impacts. Advanced technologies, new efficiencies and an ongoing commitment to customer service and environmental sustainability will strengthen the Port of Long Beach’s competitiveness for decades to come.

  The Southern California Section’s Fall Symposium 2014 is set for Nov. 7-9, at the Hilton San Diego Bayfront. This year’s event includes two and a half days of technical presentations showcasing the very latest in project controls tools and techniques. The Symposium provides a unique opportunity to network with key decision makers for major capital project delivery organizations, as well as owners, executives, managers, engi-
neers and many other industry professionals. Symposium highlights include:

- **Technical program** – Presentations by industry experts on cost engineering, project management, project controls, scheduling, claims and other relevant topics.
- **Future of Project Controls** – Panel discussion by industry leaders on retaining and developing key talent in project controls.
- **Certification credit hours** – Attendees will receive credit hours toward their certifications.
- **Enhanced hotel accommodations** – The Symposium will be held at the Hilton San Diego Bayfront with nightly rates as low as $159.
- **Software showcase** – Software vendors will demonstrate the latest and greatest in construction industry software.
- **Golf Social Event or Craft Brew Tour** – Pick your flavor, both offering an opportunity to network with your peers in a fun environment!

For additional information on the Southern California Section’s annual Fall Symposium, contact Mark von Leffern (mark.vonleffern@jacobs.com) or Razza Samia (rsamia@tecolote.com).

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**REGISTER NOW FOR THE OCTOBER 8 TOTAL COST MANAGEMENT TODAY WEBINAR**

The next Total Cost Management Today webinar will feature a presentation titled, “Trends in International Construction Arbitration.” The presenter will be Jim Zack. The webinar is scheduled for noon (Eastern Daylight Time) on October 8. Registration for the webinar may be found at www.aacei.org/mtgs/Webinars/2014-10-08.shtml.

**Trends in International Construction Arbitration** — International arbitration is a transnational dispute typically involving disputes between parties from different nations often performing work in yet another nation. A UK contractor constructing a ore processing facility in a sub-Saharan African nation on behalf of a Canadian minerals company, files a claim for UK£1.45 million and seeks arbitration when the project owner refuses to settle is an example of an international arbitration. As the world’s economy has become more globalized, more corporations are working internationally. Over the past two to three decades disputes on construction projects have become larger, more complicated and more common. Research indicates that arbitration is the preferred dispute resolution mechanism for international corporations rather than transnational litigation. As the number of arbitration case filings has increased so has the number of arbitral institutions (which now number at least 28) and the seats of arbitration. Perhaps in reaction to growing criticism of the process, there has been and continues to be other changes concerning international arbitration.

Among the topics covered in this 90-minute webinar include current trends concerning international construction arbitration including:

- Corporate dispute resolution policies favor arbitration;
- Virtually all arbitral institutions report a growth in case filings year after year;
- In-house legal counsel do not use retained legal counsel but seek specialized counsel;
- In-house legal counsel are remarkably consistent on top influences for selecting arbitrators;
- In-house counsel are also consistent on their choice of governing law;
- Despite 28 arbitral institutions globally, 3 dominate the field;
- There are two favored seats of arbitration but some regional centers are gaining in popularity;
- International arbitration is no longer faster or cheaper than litigation;
- A high percentage of disputes are settled prior to issuance of an arbitral award;
- Very few participants have to appeal an award for judicial enforcement;
- A majority of international corporations would grade and report on arbitrator performance; and
- Confidentiality of arbitration remains one of the strongest selling points for arbitration.

Jim Zack is the Executive Director of the Navigant Construction Forum. Formerly, Executive Director, Corporate Claims Management for Fluor Corporation, a $20 billion/year engineering, procurement, construction and maintenance contractor with offices and projects worldwide. Previous to that, Vice President of PinnacleOne and Executive Director, PinnacleOne Institute and Senior Construction Claims Consultant with CH2M HILL, Inc. With 40 years experience working on construction projects he is a recognized expert in mitigation, analysis and resolution or defense of construction claims.
**How to Submit Section News to the AACE® International Bulletin**

**When Will Your Section News Submission Be Published?**

The digital *Source* magazine includes all “Section News” submissions. *Source* has a submission deadline of two months in advance of the issue date. Please review the following production schedule. It lists the submission periods for the six bi-monthly issues of *Source* magazine in 2014.

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<td><strong>February</strong></td>
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<td>• Items submitted from Oct. 16 - Dec. 15, 2013</td>
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<td><strong>April</strong></td>
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<td>• Items submitted from Dec. 16 - Feb. 15, 2014</td>
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<td>• Items submitted June 16 - Aug. 15, 2014</td>
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<tr>
<td><strong>December</strong></td>
</tr>
<tr>
<td>• Items submitted Aug. 16 - Oct. 15, 2014</td>
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This production schedule is based upon production schedules at AACE headquarters, as well as our printer having two to three weeks production time to take our in-house files and convert them to the Nxtbook software for posting. Enhanced features like audio, video, website links, and more will be a part of each issue of the *Source*. Some technology features will require additional production time and earlier deadlines. The magazine is to be ready for posting by the first of the month.

Within 2 to 3 business days of submitting a “Section News” items, you should receive a return confirmation e-mail that your submission was received at AACE headquarters.

**How to Submit Text and Photos**

Please submit any and all text as a part of the e-mail or as a Microsoft Word file attachment. Please submit any photo or photos as individual attachments in tiff or jpg formats. Do not embed photos in Microsoft Word files.

For photos to be used, we require either large original files or print size photos at 300 dpi (dots per inch). We can convert large 72 dpi submissions into the required 300 dpi. This process shrinks the size of the original submission. We cannot use photos taken on cell phones. For photos to be published, they must be in focus, of print quality, and wide enough to fill the width of the column layout.

Please include the names and titles of each person shown in any photos. Please list names from left to right or refer to those shown as being above left or right. For group photos please list names from left to right, beginning with the front row and working to the back. Do not list the Section officer first unless he or she is photographed on the left with guest speakers on the right.

All submissions should be e-mailed to editor@aacei.org. Please use the official name of the Section as approved by the AACE Board when the Section’s charter was approved. Never refer to the Section as a chapter.

**Contact AACE Concerning Missing Submissions**

Generally, all submissions received in the above scheduled times will be published in the listed issue. Items are not held because of space restrictions. There is no waiting list and no preference is given to one Section over another. Questions about incomplete submissions or failure to follow these submission guidelines could delay publication. Text will be published without submitted photos if the photo does not meet the listed quality requirements.

If a submission is not included in the designated issue, please e-mail or call the Managing Editor to ensure that it has not been lost or misplaced. Call or e-mail if you do not receive a confirmation e-mail within 3 business days of submission.

AACE reserves the right to edit all submissions and/or to refuse to publish any submissions determined by the Managing Editor or the Art Director to not meet the standards of the journal. Any appeals of these decisions will have a final decision determined by the Executive Director.

Any Section representative with questions is advised to e-mail editor@aacei.org or call the Managing Editor during regular business hours (9 a.m. to 5 p.m. Eastern Standard Time, Monday-Friday, except holidays and special closings.)
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*Previously known as the Certified Cost Consultant/Certified Cost Engineer*
The Southern California Section of AACE International will be holding the 6th Annual Fall Symposium to continue the tradition of showcasing the latest in project controls knowledge, techniques and tools. Don't miss this valuable opportunity to connect with other industry professionals and earn CEUs/PDHs.

For more information:
Marc Glasser,
Annual Symposium Chair
marc.glasser@jacobs.com

Register Online:
www.aace-scs.com

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**COMING EVENTS**

**OCTOBER 2014**

8  Total Cost Management Today Webinar, Trends in International Construction Arbitration - Presented by Jim Zack, AACE International
www.aacei.org
Contact: phone 1-800-858-COST fax (304) 291-5728 info@aacei.org
www.aacei.org/mtgs/Webinars/

9  2nd Latin American Symposium on Cost Management, Chile Section of AACE International
The Golf Club 50
Santiago, Chile
Contact: http://aace.cl/

16  The Disaster Conferences, The Disaster Conferences, Hyatt Regency Dallas
Dallas, TX
Contact: www.disasterconferences.org

20-22  2014 ICEC World Congress, The International Cost Engineering Council (ICEC) and The Italian Association for Total Cost Management (AICE)
Atahotel Executive
Milano Italy
Contact: www.icec2014.it/

**NOVEMBER 2014**

3-7  The Second Australasia and South East Asia Structural Engineering and Construction Conference (ASEA-SEC-2), The International Structural Engineering and Construction Society (ISEC)
Rama Gardens Hotel
Bangkok, Thailand
Contact: www.isec-society.org/ASEA_SEC_02

11-13  AACE International Total Cost Management Conference, AACE International
Millenium Hilton Bangkok
Bangkok, Thailand
Contact: phone 1-800-858-COST fax (304) 291-5728 info@aacei.org
www.aacei.org

19  Total Cost Management Today Webinar, Successful Use of Project Controls Practices - Presented by Chris Carson, AACE International
www.aacei.org
Contact: phone 1-800-858-COST fax (304) 291-5728 info@aacei.org
www.aacei.org/mtgs/Webinars/

20  The Disaster Conferences, The Disaster Conferences, Hotel Nikko San Francisco
San Francisco, CA
Contact: www.disasterconferences.org

**JUNE 2015**

28-JULY 1  AACE International’s 2015 Annual Meeting, AACE International
MGM Grand
Las Vegas, NV
Contact: phone 1-800-858-COST fax (304) 291-5728 info@aacei.org
www.aacei.org

Please submit items for future calendar listings at least 60 days in advance of desired publication.

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Modularization Program Execution Optimization on Mega Oil Sands Projects

Technical Article
Better Use of Value Engineering in Project Delivery

Technical Article
How to Maximize the Value of Virtual Teams

Technical Article
FACTS: Factors, Analogies, CERs and Tools/Studies for Government Acquisitions

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