



The Society of Cost Estimating and Analysis

# The Dayton Coster Greater Dayton Chapter

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## 2006 - 2007 DAYTON CHAPTER

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## *President's Message: Linda Turner*

It's hard to believe that fall is upon us – the last two months have absolutely flown by! As with most Cost Professionals, I have had to manage workload between the urgent – FY06 Closeout – and the important – planning the execution of cost analyses for assigned programs. The SCEA Dayton chapter has continued the quest to improve our services to local members this fall. We have hosted two events in recent weeks that were well attended. The first event, the August SCEA Membership Mixer, was held at the Quaker Steak & Lube restaurant on Col Glenn Highway. I had the pleasure of meeting many members of our Cost profession from organizations across the base, as well as contractor team members. And, of course, everyone enjoyed the appetizers and beverages that were provided 'on the house' by the chapter. SCEA Dayton also hosted an informal Networking Lunch at Fuddrucker's in Beavercreek. Over a dozen folks got together to have lunch together. For those of us who attended, it was a wonderful opportunity to catch up on news with old friends, and to welcome new members to the Wright-Patterson Cost community.

Most recently, SCEA Dayton hosted a luncheon on Thursday, October 26<sup>th</sup>, at the Wright-Patt Club & Banquet Center. Dr. Andy Sherbo, who now works for SAIC in Colorado Springs, shared excellent advice for Personal Financial Planning Success. Dr. Sherbo gave a very informative and entertaining presentation based on his experience as a personal investor, a Finance professor, and as an FM officer in the U.S. Air Force. We will post his slide presentation to the Dayton SCEA Web Site in the near future.

Please keep your eyes out for upcoming events – the other board

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## *Upcoming Chapter Events*

Networking Luncheon .....29 Nov  
 Adopt-a-Family Charity Event .....Dec

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## *President's Message (continued)*

members and I welcome your participation. The chapter will schedule another Networking luncheon the end of November – if you have a preference on location, please let me know.

In December, the chapter plans to participate in an Adopt-a-Family event to sponsor Christmas gifts for a local family in need. In January, the chapter is privileged to announce Mr. Rich Hartley, SAF/FMC, as the luncheon speaker. The date will be announced in the near future.

Finally, I am happy to announce that the SCEA Board has now filled all vacant positions. We welcome Mr. Greg DeBusk, Booz Allen Hamilton, who has taken the position of Programs Chair. I'd also like to recognize Mr. Scott Boyd, newly assigned to HQ AFMC/FMPC, who is our Ways & Means Chair. I look forward to working with both of you in the future.

Happy Halloween!  
Linda Turner



SCEA Greater Dayton President, Ms. Linda Turner, presenting Dr. Andy Sherbo with a SCEA coin at the October luncheon



Dr. Andy Sherbo and SCEA Greater Dayton Vice President, Mr. Ed Weeks

## *Spotlight: Mr. Jeff Chiles*

I was recently appointed Director of Publicity of the Dayton SCEA chapter. Previously I served as chapter Treasurer for 3 years and I have been a SCEA member for over 6 years. I became a Certified Cost Estimator/Analyst (CCE/A) 2 years ago.

I held a number of industrial and manufacturing engineering positions in private industry while getting my undergraduate degree working for Emerson Electric, Pitney-Bowes, and Systems Research Laboratories. I was then hired by the Air Force and spent 8 years as an Industrial Specialist in what was then the Aeronautical Systems Division working in the Fighter/Attack SPO and the C-17 SPO. In 1993 I cross-trained to the financial management career field. I had assignments in the Flight Dynamics Laboratory, ASC Budget Staff, Cost Staff and the Subsystems SPO. I am currently a Cost Analyst in HQ AFMC. My primary responsibility is to be the functional manager for the Weapon Systems Cost Retrieval System, which maintains historical O&S costs for Air Force aircraft and engines. I also manage the Economic Analysis Process program.

The most important thing in my life is my wife, September, and my 3 year old son, Michael. When not busy with improvements to our new house, I like to ride my bicycle, travel, and fly gliders. As a graduate of the University of Dayton, with both my Bachelors in Industrial Engineer Technology and MBA, I am an avid UD basketball fan. We are also Dayton Dragon ticket holders.

I look forward to serving the cost community and welcome any suggestions.

# COMMITTEE UPDATES

## Greater Dayton SCEA Membership Mixer By Linda Turner

The Greater Dayton chapter of SCEA hosted a Membership Mixer in August, at Quaker Steak and Lube in Fairborn. The event was attended by thirty Cost professionals, and included Military, Civilian and Contractor members. The chapter hosted the event to foster net-working, informal discussions, and to provide information to local cost professionals interested in joining the Dayton SCEA Chapter. The Dayton Board will be holding this event annually, in an effort to increase the opportunities for Cost professionals to get together, swap estimating tips, and improve communication across the Cost community.



Sean Broderick, Greg Debusk, Bryan Daly,  
Ryan Rueve (all from Booz Allen Hamilton)



Mark Davidson (Quantech) and  
Ed Weeks (Booz Allen Hamilton)



Candy Hendrickson, Randy Bowen,  
Tom Hogan (MCR)



John Bielecki, Greg McDuffy,  
Monica Anders, Larry Hefflinger

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## Greater Dayton SCEA Membership Mixer (Continued)



Col Randy Nocera and Monica Anders

## Greater Dayton SCEA Networking Luncheon By Linda Turner

The Dayton SCEA Chapter held a Networking luncheon on Tuesday, September 26th, at Fuddrucker's in Beavercreek. The event was attended by individuals from Contractor Teams, ASC Cost Staff, ASC's Acquisition Center of Excellence, the Reconnaissance Systems Wing, the Mobility Systems Wing, HQ AFMC Cost Staff, and the SOF Systems Group. The time out of the office afforded all attendees the opportunity to get to know the kind of work done in other parts of the Wright-Patterson Cost community, network, and meet new acquaintances. The Dayton Chapter will host similar events in the future - we look forward to seeing you there!

## SCEA Dayton Cost Advertising Opportunities By Amy Balsamo

On behalf of the SCEA Greater Dayton Chapter, I would like to make you aware of a great advertising opportunity available to you. Advertising space is available in the SCEA Dayton Coster, our chapter newsletter. A few companies have already taken advantage of this opportunity and their ads are included in this issue. Ad sizes and prices are as follows:

½ page ad:	\$50
¼ page ad:	\$25

A digital file is preferred in the form of a .jpg or .gif file. This is an excellent, yet inexpensive, opportunity to advertise your employment opportunities or special events. If interested, please contact Amy Balsamo at [Amy.Balsamo@wpafb.af.mil](mailto:Amy.Balsamo@wpafb.af.mil), or telephone (937) 656—9598, for further information.

# LESSONS LEARNED/BEST PRACTICES

## An Introduction to Schedule Risk Assessments

By  
**Jim Crowell, ASC/FMCE**

A key element to successful program execution is a schedule that accurately depicts how the program will be executed. This schedule represents the time phased approach to executing the program. One tool for developing a realistic program schedule is the schedule risk assessment (SRA).

A schedule risk assessment is a process which uses statistical techniques to quantify the technical and programmatic impacts of risk on the program schedule. SRAs support program management because the program schedule itself only shows what will happen in the program if everything always goes according to plan. Unfortunately, the world is filled with uncertainty and things often do not always go exactly as planned.

This article will review the SRA process as a standalone effort; however the steps in either approach are very similar. There are six basic steps in the SRA process: 1) establish the baseline schedule; 2) understand the risks; 3) evaluate schedule durations; 4) run schedule simulations; 5) analyze simulation results and 6) prepare mitigation plans.

**1) Establish a baseline schedule**- The first step of the SRA process is to establish a good baseline schedule. A good baseline is essential for any subsequent analysis to be valid. The program schedule can be developed by the program's prime contractor, in-house by Government personnel or both so long as it accurately represents the program as it is currently planned.

The schedule should be multi-functional in nature and include all the activities required to execute the program. A schedule that contains only flight test activities does not provide an accurate picture of a program's execution because many other functions are also required to successfully execute the program e.g. software development, integration testing, technical orders etc. Leaving key areas out of the baseline schedule means that any risks associated with those areas will not be addressed as part of the SRA.

**2) Understand the risks**- Once a good baseline schedule is established, the next step is to identify and understand the programmatic and technical risks. Most often, this is accomplished by reviewing the program for risks. All functional areas are reviewed by experts (both government and contractor) who identify risks in their particular area of expertise. Since there are a lot of areas to cover and many team members with differing opinions may be involved in this review, it is not uncommon to employ a facilitator in the process.

After risks are identified, the review team then reviews those risks to determine if they will have a significant impact to the schedule. For risks having a schedule impact, the review team will associate that risk with a specific activity in the program schedule. By linking a specific risk to a specific activity in the schedule, the team can better assess the time required to complete the task.

**3) Evaluate the schedule durations**- The review team must now develop inputs for the risk activities of the program. SRAs most often utilize Monte Carlo analysis (statistical analysis based on random number generation) to evaluate risks to the program schedule.

The inputs for Monte Carlo analysis are the shape of probability distribution curve and duration inputs. There are several distribution curves to choose from, but the triangular distribution is most common because of its ease of use. Inputs for the triangular distribution are minimum values, most likely values and maximum values for the risk activity. Since the analysis deals with schedule risk, these values are expressed in terms of durations- the time

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## An Introduction to Schedule Risk Assessments (Continued)

required to complete an activity. The minimum represents the “best case” value- the minimum time the activity can be accomplished in; the most likely value represents the time it will probably take to complete the activity and the maximum represents the “worst case” value- the most time it will take to complete the activity.

The review team reviews the technical and programmatic aspects of each risky activity, compares them to the current planned duration of the activity and then estimates the minimum, most likely and maximum durations for that activity. These estimates can be based upon the teams’ past experience with similar activities, outside analysis or expert judgment. Any of these methods is acceptable as long as the resulting estimates reflect the amount of risk inherent in the activity. That is, the more risky the activity is, the larger the durations. After receiving duration inputs from the review team, the inputs are entered into the Monte Carlo software for processing

**4) Run the schedule simulation**- The Monte Carlo software performs a risk simulation on the schedule. It does this by randomly selecting numbers somewhere between the min and max values, plugging those numbers into the schedule and then measuring how the values affect the schedule completion date. The results are recorded and the process is repeated with new random numbers.

After a sufficiently high number of repetitions (generally over 1,000), a database is generated that is statistically valid for making predictions of how the schedule reacts to risk. By studying what has happened in the schedule many times before, the software can predict what is likely to happen in the future.

**5) Analyze simulation results**- In SRAs, predicted outcomes are specific dates in the schedule. These dates are called confidence dates. Confidence dates are predicted for various levels of confidence e.g. 10%, 50%, 90% etc. so that for each confidence level, there is a corresponding confidence date. A 90% confidence date of 12/24/09 would mean that there’s a 90% probability that the program schedule would finish on or before 12/24/09, based on the identified risks in the schedule. Thus, if a program manager wanted to be 90% certain of completing the project on time (or earlier), he/she would plan to the 90% confidence date projected by the SRA. If he/she were willing to take on more risk in their program, then a lesser confidence date could be chosen.

A follow-on consideration to schedule risk is the cost of that risk. There is a value to time and if it is anticipated that the program schedule will be longer than planned, then the program will need additional resources to operate during that period. For example, suppose the flight test portion of a program was originally planned to be three months long. The SRA results now show that when risk is factored into the program, the flight test portion could be as long as 9 months. If the program manager wants to be able to execute his /her flight test program, then additional funds to support the extended testing period will be required.

**6) Prepare Mitigation Plans**- A key point to remember when reviewing a SRA result is that the predicted outcomes are exactly that- predictions. They are predictions of what can happen in the program if risks are not managed. By identifying the risk drivers in a program and managing those risks, the program manager has a greater chance of successfully executing the program.

Schedule Risk Assessments support this goal by not only helping to identify program risks, but also by helping to prioritize those risks. Suppose that there are three risks with potential schedule impacts identified in a program. Which one should a program manager (with limited time and resources) tackle to best protect the program? SRA results show that the first risk may extend the schedule by 1 month. The second risk may extend the schedule by 1 month. And the third risk may extend the schedule by 12 months. Obviously, the third risk is the overall driver for the program. If any resources are devoted to risk mitigation, they should be devoted to the third risk to get the most bang for the buck.

In summary, uncertainty exists in all programs. Schedule risk assessments are a systematic approach to identifying and quantifying the risks in the program. Once risk has been quantified, it can be prioritized as to its impacts and appropriate mitigation strategies can be developed to support the successful execution of a program.



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The Society of Cost Estimating and Analysis

## The Dayton Coster Greater Dayton Chapter

If you have comments, ideas, or are interested in contributing an article to "The Dayton Coster", please direct them to Amy Balsamo at [Amy.Balsamo@wpafb.af.mil](mailto:Amy.Balsamo@wpafb.af.mil).