

Washington Capital Area Chapter

Washington
Capital Area
Chapter, ICEAA



President's Message

David Stem, Chapter President



International Cost Estimating
and Analysis Association

It's that time of year again to ring out the old and bring in the new! There have been a lot of new happenings in the overall organization as well as within the local Washington Capital Area Chapter in the past few months and more new things to come. As you are probably aware, SCEA and ISPA have completed the merger and have chosen a new name, the International Cost Estimating and Analysis Association (ICEAA). With the new organization, come many new things. First, you'll be seeing the new logo on all of our communications to members. Second, the chapter has updated the constitution and bylaws which govern how the chapter operates in the new merged association. These documents will be posted on our chapter website (www.washingtonscea.com) for your review.

Other new changes include changes to our board. Janet Geldermann, from Aerospace Corporation, will discontinue being our web manager. These duties will be picked up by our new website manager, Jennifer Strawn from TASC. I'd like to thank Janet for her work on reformatting our website and keeping the content current for our members. You can find out more about our new web manager in the introductory article.

As always, our luncheon program and training offerings have continued to provide interesting presentations with strong member attendance. In August, Peter Braxton from Technomics gave a talk on probability distributions for risk analysis. Next, Robert Nehring and Kammy Mann of Technomics gave a presentation on galaxy charts in September. Last month, Linda Williams from Wyle, gave a presentation on the NRO program assessments. In addition to the luncheon series, we have held training sessions with the Technomics Training Institute to help provide members additional assistance in increasing their cost estimating knowledge and prepare for certification exams. I'd like to thank all the presenters and Technomics for hosting these events for the chapter.

Also new for this edition of the newsletter, we are including an article by Lyle Davis from the F-35 Joint Program Office entitled, "The Value of Cost Estimating in a Fiscally Constrained Environment." We thank the author for deciding to publish in our newsletter.

Finally, we are approaching the time of year to hold our annual chapter

business meeting. You will be getting more details as the time nears for this event. We are also soliciting nominations for our annual awards to recognize excellence in our field at all levels. The categories are:

- Luncheon Speaker
- Leadership/Management
- Team Achievement
- Technical Achievement
- Junior Analyst

The nomination form and more information on submittals are included in an article in this newsletter.

As always, I'd like to wish everyone a safe and happy holiday season. We look forward to seeing as many as you as possible at the annual meeting.



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Chapter Activities:

- Monthly Luncheons
- Local Training Opportunities
- Conferences
- Quarterly Newsletter

Check us out online!
www.washingtonscea.com

Luncheon News

We hope everyone has enjoyed a great fall season so far! The Washington Chapter luncheon series had some interesting luncheon presentations in August, September, and November, and we are now off to another great quarter with some exciting upcoming presentations. For the next year or so, our intention is to again bring you a mix of presentations and tutorials covering a variety of cost estimating subjects. Since our last newsletter, we have had the following luncheon presentations:

August 2012: Probability Distributions for Risk Analysis

The August luncheon featured Peter Braxton of Technomics, Inc. He gave a talk entitled "Probability Distributions for Risk Analysis." According to Mr. Braxton, much has been written about the use of common probability distributions in risk analysis, but many risk analysts lack a deep appreciation and intimate knowledge of the mathematical properties of these distributions and the graphical, numerical, and algebraic manifestations thereof. This session focused on three distributions in particular, the normal, lognormal, and triangular. Topics included: understanding the shape of a distribution and how it is related to that distribution's parameters; alternative specification of distributions; correction of distributions for understatement of both mean and CV; and useful rules of thumb for characterizing distributions.

September 2012 Luncheon: Galaxy Charts: A New, Innovative Way to View Your Entire WBS

The September luncheon featured Mr. Robert Nehring and Ms. Kammy Mann of Technomics, Inc. They gave a presentation entitled, " Galaxy Charts: A New, Innovative Way to View Your Entire WBS." Mr. Nehring and Ms. Mann introduced an innovative graphic that could prove invaluable to cost estimators and consumers of their estimates everywhere. A Galaxy Chart can display an entire WBS on a single sheet of paper, showing all WBS

elements, relationships, costs, and even methodologies in a visual way. Each child cost element is "in orbit" around its parent, with its children, i.e., grandchildren, "in orbit" around their parent. The size of each element is directly proportional to its cost and hence importance. Many insights are available in a single view with this information-dense chart. For example, when the cost element upon which you focus is small and remote like Pluto, you need to re-focus your efforts on the Jupiter and Saturn cost elements first! This presentation gave an overview of the Galaxy Chart concept, explained how to construct one, and highlighted a few of the insights that are available from this display, and insights that are typically difficult to gain without it.

November 2012 Luncheon: NRO Program Assessments: Best Practices and Lessons Learned

The November luncheon was presented by Ms. Linda Williams of Wyle, Inc. She gave a talk entitled "NRO Program Assessments: Best Practices and Lessons Learned." The National Reconnaissance Office (NRO) performs program assessments for a variety of purposes: the management of acquisition programs; portfolio analysis for resource allocation; and accountability to NRO's oversight organizations – Execution to Oversight. The NRO Cost Analysis Improvement Group (CAIG) recently stood up a Program Assessment group to continuously improve the NRO's program assessment process to become more efficient, consistent and standardized. This presentation discussed the NRO's approach to each level of the Execution to Oversight pyramid, and provided insights into the current processes being implemented and improvements being made. A new tool under development called the NRO Program Assessment Dashboard (NPAD), and observations of industry best practices being considered for potential future improvement of NRO processes. The presentation shared findings, recommendations, and challenges, and solicited feedback on ways to continuously improve the NRO CAIG's program assessment capabilities.



More Luncheon Information

Be on the lookout for invitations to the following upcoming luncheons in the next few months:

Bob Hunt of Dulos, Inc., with a presentation on methods for costing iterative development projects.

Jeremy Eden of Booz Allen Hamilton, with a discussion of cost estimating training for non-cost estimators.

As always, the Washington Area Chapter luncheon series provides a great venue for local speakers and guests. If you have never attended an ICEAA luncheon, then I invite you to check it out. Washington Area Chapter members receive monthly invitations in their e-mail in-boxes. If you are not yet a member, or your e-mail address has changed, you can sign up to receive invitations at the chapter website, www.washingtonscea.com, or by contacting your program chair, Tim Anderson, at timothy.anderson@iparametrics.com.

Finally, if you would like to give a presentation at an upcoming Washington ICEAA luncheon, please contact your program chair. We are always looking for interesting speakers and topics, and this is one of the last "free lunches" available in town!



The Value of Cost Estimating in a Fiscally Constrained Environment

By Lyle Davis

In the multi-billion dollar world of government defense acquisition programs, one area deserving of particular attention is the touch labor estimate. For the F-35 Lightning II program, touch labor estimates are used during negotiations for the various low rate initial production lots. The F-35 Lightning II program is currently in the System Development and Demonstration phase of the acquisition life cycle. Assembly of the F-35 occurs at the Lockheed Martin manufacturing plant in Fort Worth Texas. The F-35 is the Department of Defense's largest acquisition program and the program is developing not one, but three aircraft for three U.S. Services, 8 international partner nations and two foreign military sales. The three variants of the F-35 include a conventional take-off and landing (CTOL) version for the Air Force, the short take-off and vertical landing (STOVL) version for the Marines, and the carrier variant (CV) for the Navy. The CTOL, STOVL, and CV variants create varying degrees of complexity for estimating and the touch labor estimates are in the millions of hours; making the choice of a cost technique to estimate touch labor that much more important.

Cost techniques give a cost estimate structure and serve as the foundational integrity of the cost estimate. The fidelity of the cost estimate is in part based on selecting the most appropriate cost technique, ensuring its output is appropriately interpreted for use of the cost estimate, and using data that is reliable and accurate.



Another important aspect of putting an estimate together is clearly documenting not only the technique used in the estimate, but the process used to arrive at the end result. The process should be clear enough for an external estimator to repeat the documented steps and arrive at the same end result. Repeatability and traceability give credibility to the estimate, especially when reviewed by peers, and other government agencies. Cost techniques or models built around different cost techniques are widely available in commercial software packages and are also modeled by individual government program offices. Different models are also used during different phases of the acquisition life cycle. For the F-35 program, which is currently estimating low rate initial productions (LRIP) lots, using actual data from previous LRIP's to estimate touch labor for future production lots is an excellent technique upon which to base the estimate. This method is known as extrapolation from actuals.

Extrapolation considers actual costs or hours on units already produced or currently in production to estimate future units in dollars or hours. Several variations of extrapolation are the use of averages, learning curves, or estimates at completion. The F-35 program office uses learning curves to estimate touch labor hours for lots currently in production and future lots. Learning curves assume a significant portion of the hours involved are associated with human involvement in the process. Assembly of the F-35 involves significant amounts of touch labor making efficiencies in learning a legitimate part of the touch labor estimate.

Complexity of the manufacturing process serves as a gauge in regards to the available amount of learning that can take place. The more complex the manufacturing process is the more learning can occur.

Contractors such as Lockheed Martin base their estimates for touch labor off of theoretical first units (T1) derived from engineering estimates or for a contractor like Lockheed Martin off of past programs with similar design such as the F-22. On the government side of a program such as the F-35, currently in the Engineering, Manufacturing, and Design Phase, regressing actuals allows the estimator to calculate the T1 based off the actual data. An estimator can then project what the unit cost or hours would be into the future based off of the learning curve the regression produces.

Cost estimating will continue to get more and more visibility as defense budgets trend down. Budgets built around faulty estimates can create difficulties for services fighting for constrained budget dollars in the future. The ability to defend and articulate the cost estimate process with the appropriate technique and with accuracy will become even more valuable than it has been in the past.



Extrapolation from actuals in learning curve theory allows for a credible and accurate method to estimate touch labor hours for manufacturing where production is stable, data is accurate, and an environment for human learning exists. This technique uses actual data to predict future costs or hours for individuals units. It brings credibility and reliability. It has application to hours, material dollars and cost. It is also a recognized method for estimating across federal government defense estimating agencies.

An estimate should also be compared with other independent cost estimates to evaluate validity and accuracy. Making comparisons between estimates can reduce risk and minimize errors. Estimates should include documentation with logic, reasoning, and processes that allows for repeatability and traceability. Ad hoc models leave no standardization and repeatability can be near impossible.

The F-35 program office has been working on touch labor models that allow for production rate effects, loss of learning, commonality adjustments, affordability initiative and outsourcing impacts, learning curve break points analysis, and estimating touch labor by hours or realization. The more accurate cost estimates become, the better the budgets will become, and the better budgets become the more credibility the services will have with Congress and the American public.

Works Cited

United States Government Accountability Office. "GAO Cost Estimating and Assessment Guide." 2009. GAO U.S. Government Accountability Office. September 2012.

Disclaimer: The views and opinions contained in this article do not represent any official statement from F-35 Lightning II government program office for any purpose, and are the views of the author only. The author claims no authority to represent the views for any government program office, including the Joint Strike Fighter. The data used to illustrate the graphs and other figures for this article contain no proprietary data from any government contractors and are for educational purposes only.

Washington Capital Area Annual Awards



We are currently accepting nominations for our Annual Awards, which recognize exceptional achievement in our local cost estimating community. These awards will be presented at the Annual Meeting in January (details for which will be announced soon). To nominate a coworker or colleague, please fill out the attached nomination form below and send it along with a 2-page (maximum) write-up to the chapter secretary at secretary@washingtonscea.com by JANUARY 4TH. The categories for the awards are as follows:

- Fostering, promoting, and conducting research and educational activities
- Interacting with other related organizations
- Establishing standards in the terminology, conduct, and application of cost estimating and analysis

Team Achievement (Consisting of three or more people)

- Demonstrating outstanding accomplishment within the field
- Promoting high impact on organization represented or the organization supported
- Show how the work was key toward influencing the management vision, goals, and objectives
- Demonstrate improvement in decision support services provided

Technical Achievement

- Promoting a Common Body of Knowledge as standard for individual excellence

- Promoting integration and synergy among cost estimating and analysis disciplines
- Developing and maintaining standards of proficiency and performance
- Establishing standards in the terminology, conduct and application of cost estimating and analysis
- Conducting cost estimates using innovative approaches
- Improving methods for cost analysis (CERs, models, data bases, new approaches)
- Communicating methods to the wider cost community

Junior Analyst (3 years or less of experience)

- Working toward proficiency in the field through job related activities and education
- Demonstrating an upward trajectory on increasing levels of skill and impact to cost field

Leadership/Management

- Promote & enhance the profession
- Fostering the growth of members
- Integration of estimating & other cost disciplines
- Recognition & certification of achievement
- Promote cost estimating discussion forums
- Promote standards of proficiency and performance



ICEAA Washington Capital Area Chapter
AWARDS PROGRAM

Nomination Type (check one):

- Leadership/Management
- Team Achievement
- Technical Achievement
- Junior Analyst

Nominee Information:

Full Name _____

Home Address _____

Current Job Title _____

Organization/Company _____

Company Address _____

Phone Numbers Work _____ Home _____

Email address _____

Nominator Information:

Name _____

Home Address _____

Phone Numbers Work _____ Home _____

Email address _____

PLEASE ATTACH A SUMMARY OF THE NOMINEE’S ACHIEVEMENTS.
Two pages or less. Include items such as job description, professional affiliations and certifications,
articles and publications, awards, contributions to SCEA, etc
PLEASE SUBMIT NOMINATION BY **JAN. 4, 2013** TO THE CHAPTER SECRETARY (Secretary@washingtonscea.com)





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Welcome Jennifer Strawn!

The board would like to welcome Jennifer Strawn as the new Washington Capital Area Chapter Web Manager. She will be replacing Janet Geldermann.

Jennifer Strawn is a Business Management Analyst at TASC, Inc. She graduated from Penn State University with a BS in Management and a Minor in Security and Risk Analysis. Currently, she is pursuing a Masters in Information Security and Forensics from Penn State University. Jennifer has supported multiple roles during her time at TASC including cost estimating

and zero base reviews, change management support and maintaining her division's webpage.



Suggestions?

If you have comments, ideas, or would like to contribute an article to the newsletter, please contact the secretary, Mike Yanavitch, at Secretary@Washingtonscea.com.

We're on the Web!

See us at:

www.washingtonscea.com