



COST ESTIMATING COMMUNITY OF PRACTICE

THE 7TH ANNUAL
SYMPOSIUM

♦ Working Together ♦
One Mission
One Vision
One NSE



AUGUST 1-3, 2023
LAWRENCE LIVERMORE NATIONAL LABORATORY



WIRELESS ACCESS

The guest wireless network provides a hotspot type of environment allowing both guests and employees internet access for their non-government-owned devices. This service is available across the site and is broadcast with the name 'LLNL-GUEST.'

Steps for the person connecting the device

- 1) From your device, select llnl-guest from the list of available wireless networks.
- 2) Enter the group password when prompted: greatscience
 - a) Press whatever button is required to submit the password on your device.(After a few seconds, a form will appear.)

Tip: If the form does not appear (possible on older devices), start your web browser and it should redirect you to the form.

- 3) Complete the form

- a) Enter the llnl email address of the person who is sponsoring the visit:

<wing10@llnl.gov>

Note: it must be a valid llnl email address ending in @llnl.gov. LLNL employees looking to connect their personal devices can use their own LLNL email address.

- b) Enter the first and last name of the person visiting or connecting. **<Maranda Wing>**

Note: LLNL employees looking to connect their personal devices can use their own first and last name.

- C) Check mark the box.

- D) Click the 'Register' button.

- 4) Click the 'Log in' button.

cpdm-dm2-prd.llnl.gov
LLNL-GUEST

Log In Cancel

Lawrence Livermore National Laboratory

Please complete the form below to gain access to the network.

Visitor Registration

* Sponsor's Email:
Email of the LLNL employee sponsoring your visit

* Your Name:
Please enter your full name.

* Confirm:
☐ I accept the terms of use

Register

cpdm-dm2-prd.llnl.gov
LLNL-GUEST

Log In Cancel

Lawrence Livermore National Laboratory

The details for your guest account are shown below.

Visitor Registration Receipt

Sponsor's Email:
wing10@llnl.gov

Guest's Name:
Maranda Wing

Activation Time:
Wednesday, 28 March 2018, 11:08 AM

Expiration Time:
Thursday, 29 March 2018, 11:08 AM

Log In

The person will be granted temporary wireless access for the up to 24 hours.



WELCOME



On behalf of the Cost Estimating Analysis Group (CEAG) Council and the National Nuclear Security Administration (NNSA), I would like to welcome you to the Seventh Annual Cost Estimating Community of Practice (CECOP) Symposium, hosted by Lawrence Livermore National Laboratory (LLNL).

CECOP was formed by the NNSA's eight sites and the Department of Energy (DOE) Headquarters for promoting the exchange of cost estimation best practices, innovative analytical methods, and fostering partnerships across the nuclear security enterprise (NSE).

The collective scientific and technological expertise that spans the DOE's and the NNSA's laboratories needs to be shared and fostered to ensure that we all can be agile and responsive to our nation's estimating needs.

A special welcome to our distinguished keynote speakers: Dr. Marvin Adams, Karen Mislick, and Lt. Col. (Ret.) Gregory Mislick. Dr. Marvin Adams is the Deputy Administrator for Defense Programs at NNSA, where he oversees programs that ensure the safety, security and reliability of the U.S. nuclear weapons stockpile. Karen Mislick is a Senior Lecturer at the Naval Postgraduate School and a former Assistant Director for the Applied Research and Methods team at the Government Accountability Office (GAO), with more than 30 years of cost estimating experience. Lt. Col. (Ret.) Gregory Mislick is a Senior Lecturer and Operations Research Chair of Cost Analysis at the Naval Postgraduate School, with extensive experience in military operations.

This year's event will include presentations from an array of site representatives in the areas of cost and schedule estimating, capital project estimate practices, risk management, estimation policy, and data analysis for application in weapons programs.

We hope you enjoy your time at the Symposium. For those of you attending in person, welcome to California!

Sincerely,

Carol Meyers

Carol Meyers
Associate Program Director
Nuclear Weapons Evaluation & Planning, Weapons Infrastructure
Lawrence Livermore National Laboratory





COST ESTIMATING ANALYSIS GROUP



The Cost Estimating Analysis Group (CEAG) is the Nuclear Security Enterprise (NSE) wide working group sponsored by the National Nuclear Security Administration (NNSA) with membership from every nuclear weapons design and production agency. It is the principal source for cultivating experience and excellence in programmatic cost estimating across the NSE and operates through collaboration and innovation.

CEAG has established several working groups such as the Historical Data Working Group and Modeling Working Group where federal and site analysts can openly communicate and share best practices, and also sponsors the annual Cost Estimating Community of Practice (CECOP) symposium.

CEAG seeks to lift all boats across the NSE, and is based on the following principles:

- Emphasis on enterprise-wide collaboration and participation from all NSE sites
- Mutual respect, transparency, and honest dialogue
- Sites negotiate their deliverables, resources, and intellectual property issues
- Encourage innovative approaches with potential to develop insight and confidence in results

CEAG is comprised of representatives across the NSE and chaired by the Office of Programming, Analysis, and Evaluation.



The Cost Estimating Community of Practice (CECOP) event is NNSA's annual symposium focused on the exchange of best practices, methodologies, and community building across the nuclear security enterprise. It provides a collaborative forum for cost estimating and related practitioners to share best practices and innovative approaches across its government and industry partners. CECOP symposiums include cost estimating and related professionals from NNSA, Department of Energy, Department of Defense, National Aeronautics and Space Administration, National Reconnaissance Office, and U.S. Government Accountability Office.

The Cost Estimating Analysis Group (CEAG) oversees CECOP and is governed by a Council chaired by the Office of Programming, Analysis, and Evaluation with membership representation from every site across the nuclear security enterprise. CEAG aims to improve programmatic cost estimating through joint projects and working groups where federal and site analysts can openly collaborate. CEAG Council Members are actively involved in CECOP, including nominating members to serve on the CECOP Planning Committee which is responsible for planning the annual symposium and organizing various information exchange meetings and educational opportunities throughout the year.

COST ESTIMATING COMMUNITY OF PRACTICE



KEYNOTE SPEAKERS



MARVIN L. ADAMS, PhD

Deputy Administrator
Office of Defense Programs
National Nuclear Security Administration

Dr. Marvin Adams serves as NNSA's Deputy Administrator for Defense Programs, a position he has held since April 2022, when he was confirmed by the U.S. Senate and sworn into office by Secretary Granholm.

He leads the team responsible for maintaining the safety, security, and reliability of the Nation's nuclear weapons stockpile. The team designs, manufactures, assesses, surveils, transports, dismantles, and manufactures U.S. nuclear warheads. It manages the materials and physical infrastructure that these activities require, and it develops and maintains the unique capabilities needed for these missions now and into the future.

Dr. Adams first served DOE as a physicist at Lawrence Livermore National Laboratory (LLNL) from 1986 to 1992. From then until his confirmation as Deputy Administrator, Dr. Adams was a Professor of Nuclear Engineering at Texas A&M, while also serving U.S. national security in a wide variety of roles. He has served on the President's Council of Advisors on Science and Technology, the Stockpile Assessment Team of the Strategic Advisory Group for U.S. Strategic Command, the JASON defense advisory group, the National Academics Committee on International Security and Arms Control, the Predictive Science Panel for LLNL and Los Alamos National Laboratory (LANL), the Mission Committee for LANL, the Predictive Engineering Sciences Panel at Sandia National Laboratories, and many other review and advisory bodies related to national security.

DAY ONE AUGUST 1

Karen Richey Mislick is a senior Lecturer at the Naval Postgraduate School (NPS) in Monterey, California. In this position, she teaches students best practices related to cost estimating, scheduling, earned value management, technology readiness and Agile development methods. Prior to joining NPS in 2018, Karen was an Assistant Director for the Applied Research and Methods Team at the Government Accountability Office (GAO). During her almost 20 years at GAO, Karen was responsible for performing cost, schedule, and Earned Value Management analyses to support audit findings on a wide range of government programs. Certified by the National Defense University as a Chief Information Officer (CIO), Karen is also Level-III certified in the field of cost estimating and financial management. She has over 30 years of experience in the fields of cost estimating, scheduling, and EVM analysis.

Before joining the GAO, Karen was a cost analyst for the Department of the Navy where she performed earned value management and developed independent cost estimates for major weapon programs and automated information systems. Karen holds a Bachelor of Science degree in Statistics and Mathematics from the University of South Carolina and a master's degree in Cost Estimating and Analysis from the Naval Postgraduate School (NPS).

In June 2018, Karen received the Gary Christle Leadership award for developing a series of "best practice" guides that contributed significantly to effective understanding of EVM within the GAO, and throughout government, industry and academia. These guides include the GAO Cost Estimating and Assessment Guide, the Schedule Assessment Guide, Technology Readiness Assessment Guide, and the Agile Development and Implementation Guide.



KAREN MISLICK

Senior Lecturer
Operations Research Department
Naval Post Graduate School

KEYNOTE SPEAKERS

DAY TWO
AUGUST 2



KEYNOTE SPEAKERS



GREGORY MISLICK, LT. COL. (RET.)

Senior Lecturer
Operations Research Department
Naval Post Graduate School

Greg's expertise is in life cycle cost estimating and modeling, probability and statistics, regression analysis, learning curves, data analysis, and optimization, as well as Marine Corps and aviation issues. He has been teaching at the Naval Post Graduate School (NPS) since August 2000, while also serving as Program Officer of the Operations Research Department and Associate Dean of the Graduate School of Operational and Information Sciences. Greg has served as the Operations Research Chair of Cost Analysis since 2006 and is also a joint faculty member with the Systems Engineering Department. He has served as Program Manager for JIEDDO at NPS and is presently the Co-Program Manager for the Masters in Cost Estimating and Analysis curriculum. He holds a B.S. in Mathematics from the US Naval Academy, and his primary master's degree is from NPS in Operations Research.

Greg is a retired Marine Corps Lieutenant Colonel, serving for 26 years and four overseas deployments with 3,000 pilot flight hours, mostly in CH-46E helicopters. His military expertise is mainly in Operations, and he served as Executive Officer, plus Operations Officer and Logistics Officer on overseas deployments. Greg worked at the Marine Corps Research, Development and Acquisition Command—now MARCORSYSCOM—for three years primarily in the cost estimation and test and evaluation fields. He has been an Advisor, Co-Advisor or Second Reader on numerous theses at NPS, mostly in the cost estimating arena. Greg is a member of numerous professional societies, including the Military Operations Research Society, and the International Cost Estimating and Analysis Association.

DAY TWO AUGUST 2





SCHEDULE

ROOM CAPACITIES

Tilden – 128
Black Diamond – 74
Armadillo – 135

DAY ONE AUGUST 1

DAY 1

ARMADILLO

8:00 AM	8:30 AM	Check In
8:30 AM	8:35 AM	Welcome and Opening Remarks
8:35 AM	9:30 AM	DOE/NNSA Keynote <i>Marvin Adams</i>
9:30 AM	10:15 AM	NNSA Cost Estimating and Analysis Group <i>Cash Fitzpatrick</i> CEAG focuses on improving programmatic cost estimating by cultivating expertise, experience, and excellence. This briefing will include an overview of CEAG's purpose, organization, and ongoing projects with an emphasis on how interested audience members who are not currently engaged can do so.
10:20 AM	10:50 AM	NNSA Nuclear Testing Capability Independent Cost Review <i>Mark Matyas</i> The Office of Cost Estimating and Program Evaluation conducted the Independent Cost Review (ICR) on developing the capability of nuclear testing in support of National Security Memorandum (NSM-7). The ICR developed a cost estimate range utilizing parametric modeling based on the requirements outlined in NSM-7, historical and planned underground nuclear explosive tests and subcritical test data.
10:50 AM	11:20 AM	Networking Break
11:20 AM	11:50 AM	A Comparison of Capital Acquisition Processes and Schedules for DOE/NNSA and Other Organizations <i>Thomas Cook</i> The Office of Programming, Analysis, and Evaluation has recently investigated how the acquisition process and schedule for DOE/NNSA capital projects compared with those used by other federal agencies, state and local government, and commercial construction. This analysis included evaluation of unique, one-of-a-kind nuclear, complex non-nuclear, non-complex, and commercial facilities to help understand differences between the processes used by DOE/NNSA and other organizations for comparable capital acquisitions.



DAY 1		BLACK DIAMOND
8:00 AM	8:30 AM	Check In
8:30 AM	8:35 A M	Welcoming and Opening Remarks
8:35 AM	9:30 AM	DOE/NNSA Keynote <i>Marvin Adams</i>
9:30 AM	10:15 AM	An Intragovernment al Partnership between the NSE and Aerospace <i>Alex Cosby, Robert Dumas, Raymond Woods</i> <i>Addresses the intragovernmental collaboration between the Nuclear Security Enterprise and The Aerospace Corporation, a Federally Funded Research & Development Center for the national space enterprise. Potential for business process improvement is explored by examining the past, present, and future opportunities of relevant nuclear deterrence programs.</i>
10:20 AM	10:50 AM	LaBER: Labor Estimating Relationship <i>Zachary Matheson, Maura Lapoff</i> <i>The Office of Programming, Analysis, and Evaluation developed a labor-estimating relationship—LaBER—which estimates the number of construction labor hours required to complete a capital construction project. Zachary and Maura will demonstrate how analysts and decision-makers can use LaBER to balance construction labor needs over time and across sites. Initial results and opportunities for improvement will be discussed.</i>
10:50 AM	11:20 AM	Networking Break

SCHEDULE

ROOM CAPACITIES

Tilden – 128
Black Diamond – 74
Armadillo – 135

DAY ONE
AUGUST 1





SCHEDULE

ROOM CAPACITIES

Tilden – 128
Black Diamond – 74
Armadillo – 135

DAY ONE AUGUST 1

DAY 1

ARMADILLO

11:55 AM	12:25 PM	Evaluating COCS Code Assignments for Sufficient Budget Planning <i>Fred Long</i> <i>Los Alamos National Laboratory has undertaken an effort to utilize (COCS) codes, both for changes in availability and future need over time will provide the complex with valuable data on recruiting, training, and possible relocation needs</i>
12:25 PM	01:25 PM	Lunch
01:25 PM	02:10 PM	Exploring the Great Divide-A Technology Maturation and Design Reuse study <i>Elizabeth Withey</i> <i>The objective of this study was to explore the accuracy of perceptions regarding the benefits and risks of design reuse and technology maturation insertion in practice using literature, institutional documentation, and empirical data. Three questions will be posited from the study to examine perceptions about technology maturation and design reuse that will be discussed in the presentation.</i>
02:15 PM	03:00 PM	Best Practices for Reporting Technology Readiness Issues for Risk and Uncertainty <i>Emile Ettegui, John Ortiz</i> <i>The Science, Technology Assessment, and Analytics team at the Government Accountability Office has developed best practice guides for effective project controls for federal acquisition programs. Emile and John will explain how immature technologies can increase the risk and uncertainty of a cost estimate whereas higher technology readiness levels promote design maturity and can help to mitigate some cost risks.</i>
03:00 PM	03:30 PM	Networking Break



DAY 1		BLACK DIAMOND
11:20 AM	11:50 AM	Utilizing Tableau Dashboards for Visualization of Complex Modernization Program Data <i>Sarah Summers</i> Sandia National Laboratories W80-4 Modernization Program has utilized Tableau to optimize the use of critical program data through dashboard visualizations. The goal of the dashboards is to enable more effective and efficient decision-making. Sandia hopes to utilize the dashboards developed on the W80-4 to offer the same capability to future programs, adapting the existing infrastructure as needed to meet different program data needs
11:55 AM	12:25 PM	Understanding Input Distributions and Their Use in Monte Carlo Modeling <i>William Todd</i> This presentation will discuss the various types of distributions along with the pros and cons for their use in modeling different types of data, with a focus on modeling inputs from subject matter experts. A custom Monte Carlo model developed by the Office of Programming, Analysis, and Evaluation and available to the NSE will also be presented.
12:25 PM	01:25 PM	Lunch
01:25 PM	02:10 PM	NNSA Integration of Complex Program Schedules and QRAs Across Multiple Independent Organizations that Rely Heavily on Partners Plans/Deliverables <i>Lorrie Tietze, Ian Bailey, David Hulett</i> An in-depth analysis of Quantitative Risk Analysis capabilities across NNSA's sites focused on those practices applied to weapons modernization programs. This presentation describes how one of those programs developed more effective ways to integrate complex schedules and perform effective QRAs on the integrated schedules at both the site and program levels.

SCHEDULE

ROOM CAPACITIES

Tilden – 128
 Black Diamond – 74
 Armadillo – 135

DAY ONE AUGUST 1





SCHEDULE

DAY 1		ARMADILLO
03:30 PM	04:15 PM	Enterprise Estimating Request System <i>Leah Scott, Eric White</i> The Y-12 Enterprise Estimating Request System (EERS) is located in a web-based software called Process Workflow Management. EERS is a one-stop-shop for the entire project team to view, edit, and collaborate on estimate requests that are being worked on. The team is able to export this data into Tableau, where they have created various dashboards showing active estimating priorities as well as estimate actuals, including average completion times and dollars estimated.
04:15 PM		End of Day 1

MENU FOR TUESDAY, AUGUST 1

Breakfast

Assorted Quiche
Broccoli & Cheddar (V)
Quiche Lorraine - Ham & Swiss
Bacon and Caramelized Onion

Fresh Seasonal Fruit

Morning Beverages

Coffee - Regular/Decaf
Tazo Hot Tea
Water Service

Lunch

Fiesta Taco Salad Buffet
Beef Taco Meat
Impossible Taco Meat (V)
Lettuce, Tomatoes, Olives, Shredded Cheese, Sour
Cream & Pico de Gallo
Corn Tostado Bowls & Taco Shells
Chips & Salsa

Lunch Beverages
Assorted Sodas and Waters

Afternoon

Assorted Snacks
Coffee (Regular/Decaf)
Tazo Hot Tea
Water Service

ROOM CAPACITIES

Tilden – 128
Black Diamond – 74
Armadillo – 135

DAY ONE AUGUST 1



DAY 1		BLACK DIAMOND
02:15 PM	03:00 PM	An Early Stage Framework for Equity & Environmental Justice in NNSA Capital Projects <i>Haley Harrison, Zachary Matheson, Charles Loelius, Jenna Vandervort, Daniel Mulrow</i> <i>The Office of Programming, Analysis, and Evaluation has developed a framework and a set of recommendations for incorporating principles of equity and environmental justice in analyses of alternatives and early-stage planning studies. Zachary and Jenna will show how to use this framework to inform decision-makers about the potential impacts of their actions from an equity and environmental justice-focused lens.</i>
03:00 PM	03:30 PM	Networking Break
03:30 PM	04:15 PM	With a little bit of Je Ne Sais Quoi: Taking advantage of the Unkown Knows Hiding in Your Data <i>Zachary Matheson</i> <i>The Office of Programming, Analysis, and Evaluation will show the results of an exploration into machine learning techniques designed to augment the generalizability of parametric models with the subtle nuances of a well-chosen analogy.</i>
04:15 PM		End of Day 1

SCHEDULE

ROOM CAPACITIES

Tilden – 128
Black Diamond – 74
Armadillo – 135

DAY ONE
AUGUST 1





SCHEDULE

DAY 2

ARMADILLO

8:00 AM	8:30 AM	Check In
8:30 AM	8:35 AM	Welcome and Opening Remarks
8:35 AM	9:30 AM	External Keynote <i>Karen and Greg Mislick</i>
9:30 AM	10:15 AM	M&O Weapon Modernization QRA Gap Analysis Results and Recommendations <i>Lorrie Tietze, Ian Bailey, David Hulett</i> <i>This presentation will cover the experience/observations of other Quantitative Risk Analysis (QRA) Subject Matter Experts with NNSA and DOE experience. This brief will cover the QRA interviews, observations and recommendations.</i>
10:20 AM	10:50 AM	Web Based CRES Comprehensive Resource and Estimate System — A Model for Consistency within Project Management Documentation and Storage <i>Jim Berg, Keith Grindstaff</i> <i>The Comprehensive Records & Estimating System (CRES) solves the problems related to storage, versions/version control. CRES is single point web-based collection of modules that automate project management tasks making it easy for PMs and project teams to complete planning requirements and electronically signoff end products. CRES is the documentation repository and maintains configuration control of documentation. Keith and Jim will present a model for consistency within Project Management Documentation and Storage.</i>
10:50 AM	11:20 AM	Networking Break

ROOM CAPACITIES

Tilden – 128
Black Diamond – 74
Armadillo – 135

DAY TWO
AUGUST 2



DAY 2		BLACK DIAMOND
8:00 AM	8:30 AM	Check In
8:30 AM	8:35 AM	Welcome and Opening Remarks
8:35 AM	9:30 AM	External Keynote <i>Karen and Greg Mislick</i>
9:30 AM	10:15 AM	Using Profiles for Contingency P80/P90 Analysis <i>Phillip Larson</i> <i>This presentation involves the analysis of the pre-screening and assignment of risk profiles to all items used in a standard capital construction cost estimate for both direct and indirect costs. Recognizing that variability/variance can fluctuate significantly from one item of work to another, this presentation provides insight as how to recognize and account for that variance, explaining the pre-assignment methodology including its correlation with AACEI's cost estimating accuracy guidelines.</i>
10:20 AM	10:50 AM	Equipment Survival Analysis Using Condition Assessment Information (CAIS) Data <i>Dylan Schmerer</i> <i>Historical equipment data from the Condition Assessment Information System has revealed that the average replacement age of LLNL equipment is 140% of the BUILDER design life. The difference between catalog-recommended and LLNL-observed equipment lifecycles suggests that Deferred Maintenance calculations from BUILDER are conservative and warrant further study. This presentation will explore alternative methodologies for aging equipment.</i>
10:50 AM	11:20 AM	Networking Break

SCHEDULE

ROOM CAPACITIES

Tilden – 128
Black Diamond – 74
Armadillo – 135

DAY TWO AUGUST 2





SCHEDULE

DAY 2		ARMADILLO
11:20 AM	11:50 AM	A Historical and Forecasting Analysis of Continuing Resolutions for Planning and Budgeting of ND Programs <i>Amanda Wright</i> <i>An analysis of the historical Continuing Resolutions (CR) duration led to the development of a forecasting model that can inform planners and estimators in two major areas—the forecast of the number of CRs the DOE may face in the coming FY and the likely duration of time DOE could spend under CR. This presentation will also describe the types of impacts CRs have on the NSE and specific programmatic impacts the site has experienced from a Sandia National Laboratory perspective.</i>
11:55 AM	12:25 PM	High Explosive Facility Operation Cost Estimate <i>Stephanie Carpenter</i> <i>Many of the High Explosive facilities in current use at Los Alamos National Laboratory date back to the Manhattan Project requiring major repairs and recapitalization to meet enduring programmatic needs. This presentation will summarize the cost projections for operations and maintenance of the line-item development including updated estimates and assumptions for keeping the legacy buildings active while preparing the newly constructed campus for operation at LANL.</i>
12:25 PM	01:25 PM	Lunch

ROOM CAPACITIES

Tilden – 128
Black Diamond – 74
Armadillo – 135

DAY TWO
AUGUST 2





DAY 2		BLACK DIAMOND
11:20 AM	11:50 AM	MK21A Milestone B Independent Cost Estimate <i>Eric Fejka</i> Tasked to create the Milestone B estimate for Office Secretary Defense Cost Assessment Program Evaluation MK21A, Erik will cover the history of the program to Milestone B, followed by estimate creation, reconciliation, and the briefing of the final results. Creating a separate estimate from the Air Force Program Office, and Air Force Cost Analysis Agency, the three agencies met for a reconciliation and ultimately briefed out the results to support the decision on the MK21A.
11:55 AM	12:25 PM	An Overview of the DOD's Collaborative Cost Research Group (CCRG) <i>Bret Salmons, Daniel Strickland</i> This presentation will provide an overview of the collaboration occurring within the Department of Defense's Collaborative Cost Research Group.
12:25 PM	01:25 PM	Lunch
01:25 PM	02:10 PM	Independent Comprehensive Estimate Review Improvement <i>Carlos Astorga</i> This presentation will build on the body of knowledge developed by NNSA and Sandia National Laboratories for performing comprehensive estimate reviews. Starting with a high-level overview of the Sandia Independent Comprehensive Estimate Reviewer (ICER) handbook, the presentation will provide the results of a Sandia improvement initiative informed by lessons learned to streamline the ICER process and timelines and also improve ICER quality.

SCHEDULE

ROOM CAPACITIES

Tilden – 128
 Black Diamond – 74
 Armadillo – 135

DAY TWO AUGUST 2





SCHEDULE

DAY 2

ARMADILLO

01:25 PM

02:10 PM

A Mountain of NNSA Portfolio Scenarios

Alan Karickhoff

At over 40% of the Department of Energy's budget, the National Nuclear Security Administration's FY 2023 Budget Request to the Biden Administration was \$21.4 billion. To track that endowment over the last two decades across NNSA programs, the Office of Cost Estimating and Program Evaluation (CEPE) extracted every line of the statistical tables in the annual congressional budget justifications. For the first time, from CEPE's data collection effort, NNSA leadership could view the entire enterprise in one chart, a mountain chart of past and future funding over decades.

02:15 PM

02:45 PM

Does Historical Data Have an Expiration Date?

Robert Fatzinger, Alfred Levinson

The United States must continue to maintain its warheads through life extension programs and warhead alterations. These unique missions require a significant infrastructure recapitalization of Cold War facilities. This presentation examines if a historical database of dated but similar information from Cold War efforts to improve future recapitalizations outcomes—or if too much time has passed for these efforts to be relevant and develop a hypothesis on why this may be true.

02:45 PM

03:15 PM

Networking Break

ROOM CAPACITIES

Tilden – 128
Black Diamond – 74
Armadillo – 135

DAY TWO AUGUST 2

♦ WORKING TOGETHER ♦ ONE MISSION ♦ ONE VISION ♦ ONE NSE ♦



DAY 2		BLACK DIAMOND
02:15 PM	02:45 PM	Weapons Modernization SCORE Process Roadmap <i>Andrea Dorado</i> <i>Responsibility of the Scope, Complexity, Options, Risks, Excursions (SCORE) process has moved from Stockpile Management to Analysis and Evaluation. This presentation will explore the potential ramifications to the SCORE process and model due to the transition in responsibility from a modeling consortium to an estimating and analysis organization within NNSA and look at the potential effects on roles and responsibilities within Analysis and Evaluation, CEAG and this CECOP community.</i>
02:45 PM	03:15 PM	Networking Break
03:15 PM	04:15 PM	Planning, Programming, Budgeting, and Evaluation (PPBE) <i>Gayl Crandall, Previn Martin, Brianne Kacerguis</i> <i>This course provides an introduction to the NNSA PPBE process. The course explains the roles and relationships of the PPBE process and identifies the purpose and content of key PPBE events and documents, who influences them, and their relative timing in the overall process. It covers the congressional appropriations processes and how those intersect with the basic elements of DOE/NNSA budget execution and funds distribution. NUC102 within the Nuclear Weapons Acquisition Professional (NWAP) certification training is given.</i>
04:15 PM		End of Day 2

SCHEDULE

ROOM CAPACITIES

Tilden – 128
Black Diamond – 74
Armadillo – 135

DAY TWO
AUGUST 2





SCHEDULE

DAY 2		ARMADILLO
03:15 PM	04:15 PM	FX Calculator <i>Stephanie Greco</i> <i>Lawrence Livermore National Laboratory has partnered with NNSA to develop a tool to quantify the functionality of an asset and determine a modernization baseline to increase mission performance. The Fx Calculator generates the Functionality Index and modernization cost using either an internally developed webapp or desktop tool. This methodology has been shared across the enterprise and is driving the FY23 Functionality Pilot.</i>
04:15 PM		End of Day 2

ROOM CAPACITIES

Tilden – 128
Black Diamond – 74
Armadillo – 135

DAY TWO
AUGUST 2





MENU FOR WEDNESDAY, AUG 2

SCHEDULE

Breakfast

Yogurt, Berries & Granola
•
Assorted Petite Pastries

Morning Beverages

Coffee - Regular/Decaf
Tazo Hot Tea
Water Service

Lunch

Build Your Own Rice Bowl
Pineapple Hoisin Chicken (Sliced)
Pineapple Hoisin Crispy Tofu (V)
Jasmine Rice
Stir Fried Vegetables
Veggie Spring Rolls with Dipping Sauce
Fortune Cookies

Lunch Beverages

Assorted Sodas and Waters

Afternoon

Assorted Snacks
Coffee (Regular/Decaf)
Tazo Hot Tea
Water Service

ROOM CAPACITIES

Tilden – 128
Black Diamond – 74
Armadillo – 135

DAY TWO
AUGUST 2





SCHEDULE

ROOM CAPACITIES

Tilden – 128
Black Diamond – 74
Armadillo – 135

DAY THREE
AUGUST 3

DAY 3

ARMADILLO

8:00 AM	8:30 AM	Check In
8:30 AM	8:35 AM	Welcome and Opening Remarks
8:35 AM	9:05 AM	The Implications of Cost Reduction Requests During Phase 6.2A <i>Edwin Chamberlin</i> <i>A comparative analysis was conducted of the B61-12 Life Extension Program and the W87-1 Modification Program Weapon Design and Cost Reports from the perspective of Sandia National Laboratories. This analysis was performed to inform discussions regarding implications of an NNSA request to reduce the W87-1 Modification Program cost estimate, which is analogous to a prior request received by the B61-12 Life Extension Program. Phil will address how analysts might inform W87-1 Modification Program leadership of experience based on the B61-12 Life Extension Program and how to avoid the potential for increased risk and uncertainty.</i>
9:10 AM	9:40 AM	Reconciliation of W87-1 Modification Program Alternative Cost Estimate to WDCR Cost Estimate <i>Andrew Romich, Daniel McCollom</i> <i>During mid-FY2022, the Nuclear Security Enterprise and Cost Analysis Department at Sandia National Laboratories was tasked to help reconcile differences between the W87-1 Modification Program Alternative Cost (planning) Estimate (ACE) and the W87-1 Weapon Design and Cost Report cost estimate. A recap of the methodology and key assumptions used to develop the W87-1 MP ACE will be provided in this presentation.</i>
9:45 AM	10:30 AM	All in the hierarchy: Hierarchical Classification for Work Breakdown Structures <i>Maura Lapoff, Patrick Shelton</i> <i>At CECOP 2022, the Office of Programming, Analysis, and Evaluation introduced a model mapping capital asset project data to a common, high-level WBS, with high accuracy. Maura and Patrick will present Model 2, an advanced hierarchical model that maps project data to an expanded version of the multi-level, hierarchically organized Capital Acquisition Estimating Framework WBS. The presentation will provide a background on hierarchical classification, hierarchical performance metrics, and current and anticipated use-cases of this work.</i>



DAY 3 BLACK DIAMOND/TILDEN

8:00 AM	8:30 AM	Check In
8:30 AM	8:35 AM	Welcome and Opening Remarks
8:35 AM	9:05 AM	NNSA Results/Findings of the W80-4 Congressional Study and Independent Cost Estimate <i>Will Banks</i> The Office of Cost Estimating and Program Evaluation conducted a congressional study on the W80-4 modernization program based on a requirement in the FY2022 National Defense Authorization Act. Study results will be presented including the Independent Cost Estimate development process, cost estimate methodologies, schedule duration forecasting, and potential portfolio impacts to other programs across the Nuclear Security Enterprise.
9:10 AM	9:40 AM	NNSA Schedule Analysis for Early-Stages of NNSA Projects <i>Tyler Loritsch , Zachary Matheson, Haley Harrison, Natia Hodges, Patrick Moore</i> In 2019, the NNSA Office of Programming, Analysis, and Evaluation (PA&E) developed parametric cost and schedule estimating relationships to support planning and budgeting for new major construction projects. This presentation will describe the results of an analysis of historical NNSA construction project schedules, in which PA&E attempted to identify patterns and drivers of pre-CD-1 project duration.
9:45 AM	10:30 AM	NNSA Historical Data Analysis to Develop a Cost Estimating Relationship (CER) Model from AOA to CD 1/2 using Monte Carlo Simulation <i>Haley Harrison</i> Statistically relevant historical data has not previously been evaluated to conduct accurate analysis of historic NNSA data to develop a model that can accurately estimate cost from the Analysis of Alternatives (AoA) phase to CD-1/2. This presentation will address how a cost estimating relationship based on historic data has been developed to fill this gap and provide more accurate estimates of the AoA to CD-1/2 duration for construction projects.

SCHEDULE

ROOM CAPACITIES

Tilden – 128
 Black Diamond – 74
 Armadillo – 135

DAY THREE AUGUST 3





SCHEDULE

DAY 3

AUDITORIUM

10:30 AM

11:00 AM

Networking Break

11:00 AM

End of Day at Auditorium

MENU FOR WEDNESDAY, AUG 2

Breakfast

Assorted Muffins, Breakfast Loafs &
Pastries

•

Fresh Seasonal Fruit

Morning Beverages

Coffee - Regular/Decaf

Tazo Hot Tea

Water Service

Lunch

Artisinal Sandwich Box

Turkey BLTA Ciabatta

Roast Turkey, Avocado, Crisp Bacon, Sliced
Tomato, Crown Lettuce and Mayonnaise, on
Ciabatta

•

Roast Beef, Carmelized Onions and Cheese Ciabatta

Shaved Roast Beef, Carmelized Onions, Cheddar
Cheese and Horseradish Mayo

•

Spicy Italian Sub

Genoa Salami, Spicy Capicola, Pepperoni,
Provolone Cheese & Spring Greens with Hot
Pepper Spicy Mayonnaise on a Artisan Baguette

•

Avocado and Pepperjack Cheese on Ciabatta

Avocado, Cucumber, Tomato, Bib Lettuce,
Avocado and Pepperjack Cheese with Pesto Mayo
on Ciabatta

Lunch Beverages

Assorted Sodas and Waters

Afternoon

Assorted Snacks

Coffee (Regular/Decaf)

Tazo Hot Tea

Water Service

ROOM CAPACITIES

Tilden – 128

Black Diamond – 74

Armadillo – 135

DAY THREE AUGUST 3



DAY 3		BLACK DIAMOND/TILDEN
10:30 AM	11:00 AM	Networking Break
11:00 AM	11:30 AM	Using TRLs to Understand Component Risk <i>Abby Schendt</i> The innovative, award-winning analysis on using Technology Readiness Levels (TRLs) to perform data-driven schedule analysis was presented at the CECOP 2022 Symposium. Previously, the presentation was limited to unclassified details that were publicly releasable. CECOP 2023 will cover prior work that was classified and new advances in the methodology.
11:30 AM	12:00 PM	A Portfolio View of Weapons Modernization Program Executability Analysis <i>Synthia Pereyra</i> During major estimation activities in the Nuclear Weapons Modernization mission area previous estimates on historical programs or actual costs are often used to estimate programs in silo. When weapon programs labor estimates are viewed in parallel as opposed to on an individual program basis Management and Operations (M&O) site execution can be better understood. This presentation will discuss analysis approaches used from various data sources to understand labor execution at the M&O site across the Nuclear Weapons Modernization Portfolio as well as discuss the potential of future analysis.
12:00 PM		End of Day at Armadillo/Tilden

SCHEDULE

ROOM CAPACITIES

Tilden – 128
 Black Diamond – 74
 Armadillo – 135

DAY THREE AUGUST 3





PRESENTERS

Michael Archibeque

Computational Engineering Division, Systems & Policy Analysis Group
Lawrence Livermore National Laboratory

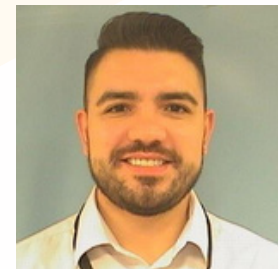
Michael is a Systems Analyst/Enterprise Modeler where he performs operations research, risk analysis, and builds mathematical models for applications across the DOE-NNSA complex. By degree, he is a Statistician with additional specialized training in Bio-Medical R&D. Prior to his current position, Michael was an Associate at an economics consulting firm, where he primarily worked on financial-economic litigation consulting on residential mortgage-backed securities related to the 2008 Economic Crisis. Michael also has several years of experience in the healthcare industry.



Carlos Astorga

Nuclear Deterrence PMO Program Analyst
Sandia National Laboratories

Carlos is a member of Sandia's Nuclear Deterrence PMO Business Office overseeing the NNSA Office of Infrastructure portfolio. He provides financial analysis and reporting, management/oversight of various ND budgets throughout the PPBE lifecycle and other business support to the ND PMO. Carlos also serves the ND Service Center Administration and functions as the ICER Lead. He engages in opportunities to drive strategic and operational process, policy, and system improvements. Carlos holds both a Master and Bachelor of Business Administration degrees from the University of New Mexico.



PRESENTERS



Ian Bailey

**Contracted to National Nuclear Security Administration
Federal Program Office of Stockpile Modernization**

Ian is a senior technical advisor with over 20 years' experience in the NSE. Since 2008, he has provided program management support and helped lead the formal acquisition cost estimate process for the W87-1 and W80-4. He also developed novel system-driven technology evaluation approaches to support NNSA technology funding evaluation across seven NSE Management & Operations Contractors. As a special team member, Ian evaluated NSE-wide cost estimation methods and more effective risk-adjusted nuclear stockpile planning approaches to improve cost and risk management performance. He graduated with honors in Economics from Harvard and has an MBA from Dartmouth's Tuck School.



Will I. Banks III

**Senior Operations Research Analyst
Office of Cost Estimating and Program Evaluation
National Nuclear Security Administration**

Will's federal career experience spans 23 years. Prior to joining NNSA, he worked at the NASA Langley Research Center, Naval Surface Warfare Center Dahlgren Division, Naval Sea Systems Command headquarters and the Office of Secretary of Defense. He has Master and Bachelor of Science degrees in Mechanical Engineering from Old Dominion University. Will holds a Project Management Professional certification with the Project Management Institute, a Level III certification in Systems Planning, Research Development and Engineering and a Level III certification in Cost Estimating from the Defense Acquisition University.





PRESENTERS

Jim Berg PMP

Project Management Systems Standards
Los Alamos National Laboratory

Jim serves as an Earned Value Management Systems (EVMS) Subject Matter Expert supporting the Associate Lab Director for Weapons Production at LANL. He is responsible for EVMS related procedure development and review as well as EVMS and Program and Project Management software development, testing, implementation, and staff training and development. Prior to his work at LANL, Jim served at the Canadian Nuclear Laboratories in Chalk River, Canada and the Canadian National Energy Alliance Science and Technology Mission, Director of the Business Management Division.



Stephanie Carpenter

Scientist, Weapons Program
Los Alamos National Laboratory

Stephanie's work within the Stockpile and Enterprise Analytics Office, involves the development of models and analysis tools for planning and integration of Weapons Program infrastructure, workforce, and programmatic equipment. Her technical background includes synthetic organometallic transition metal, actinide and transuranic chemistry. She has a B.S. in Chemistry from the University of Kentucky and a Ph.D. in Chemistry from the University of Rochester.



PRESENTERS



Edwin Phillip Chamberlin Jr.

Distinguished Technical Systems Analyst
Sandia National Laboratories

Phil has supported Sandia National Laboratories estimating efforts for 23 years. Since 2012, Phil has focused on Weapon Modernization program estimating. He currently supports Sandia through the Systems Analysis and Decision Support Center in the NSE and Cost Analysis Department. As a Technical Systems Analyst, he provides analysis for Sandia leadership on a broad range of topics with primary focus on programmatic and estimation analysis. He has actively supported each of the current modernization programs through estimate requirement development, estimate review, estimate development and NSE-wide estimate documentation training.



Thomas Cook

Analyst, Office of Programming, Analysis & Evaluation
National Nuclear Security Administration

Thomas started his foray into cost estimating as a 2020-2021 National Nuclear Security Administration graduate fellow building discrete event simulation (DES) models. Since then, he has developed models for commodity pricing to manage risk, DES models to estimate the size of nuclear facilities, and led teams in developing multi-billion dollar cost estimates. He received a Ph.D. in chemistry from Stanford University, where his graduate work focused on covalent immobilization of various discrete metal complexes on carbon surfaces for electrocatalytic alcohol oxidation or dioxygen reduction reactions.





PRESENTERS

Alexander Cosby

Director
The Aerospace Corporation

Alex has 18 years in Federal, Contractor, and Private positions supporting Nuclear, Energy, Defense, Finance, and Healthcare sectors. His primary responsibility is supporting the National Nuclear Security Administration's Office of Systems Engineering and Integration in the pursuit of increased efficiency and optimization for nuclear warhead modernization and development. This responsibility allows Alex to bring a background in policy development, systems engineering, technical integration, and security management to bear on some of the nation's hardest problems.



Gayl Crandall

Lead Program Analyst
National Nuclear Security Administration

Currently the Lead Program Analyst for NNSA's Defense Programs, Gayl has served as the NNSA Senior Program/Budget Analyst for the Office of Nuclear Weapons Stockpile/Program Integration for 14 years. Previously a DOE Program/Budget analyst for Defense Programs and Environmental Management, she also worked as a DOE Financial Information Operations/System Accountant. She holds a CPA and PMP certification and received her Bachelor of Accountancy from New Mexico State University.



PRESENTERS



Andrea Dorado

Systems Analyst
Sandia National Laboratories

Andrea conducts systems research and analysis for the Nuclear Security Enterprise and Cost Analysis department at Sandia National Laboratories. Andrea's background is in materials science and engineering with a Bachelor of Science degree from Arizona State University and a Master of Science degree from Stanford University. After graduating from the Weapon Intern Program in 2019, Andrea has applied her knowledge and experience on a wide range of NSE stockpile analysis studies from lessons learned studies to modeling efforts for NNSA System Engineering and Integration. She is also currently the Sandia Team Lead for the Scope, Complexity, Options, Risks, Excursions (SCORE) process.



Robert Dumas

Senior Project Leader
The Aerospace Corporation

Robert has over 37 years of experience in the area manufacturing engineering, tool engineering, project management and integrated planning and scheduling (IP&S). Working primarily on government proprietary programs and agencies, he provided technical and scheduling expertise to both new and recurring programs. Robert has worked on projects requiring rapid prototyping and development, using advanced manufacturing and detailed program planning and scheduling for program execution and success. He has also provided IP&S Subject Matter Expertise as the SME lead for large recurring programs supporting program management offices and customer deliverables while providing training as a scheduling instructor and mentor to junior scheduling analysts.





PRESENTERS

Emile Ettedgui

Senior Operations Research Analyst
US Government Accountability Office

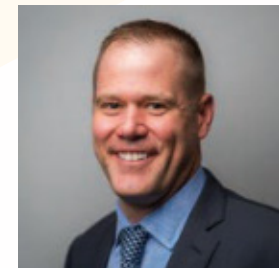
Emile focuses primarily on understanding cost estimates for a variety of government programs. In his audit work, he also examines schedules, analyses of alternatives, and the use of earned value management. In addition to his audit work, Emile is currently leading the completion of GAO's Agile Assessment Guide. He became a civil servant six years ago and joined GAO four years ago. Prior to this time, he supported the Department of Defense and the Department of Energy in their evaluations of selected technology maturity. He also worked at NATO in strategic defense planning and provided analytical support to ISAF.



Robert Fatzinger

Director
Technomics, Inc.

Robert is a skilled program manager and cost estimator bringing a unique combination of federal acquisition experience from both government and industry. He is a Certified Estimating Professional and Project Management Professional as well as a licensed Certified Public Accountant in Virginia. Robert currently supports NNSA'S Management and Budget organization in the deployment of financial analysis systems and development of cost, schedule, and risk analysis. He previously served on the CIA's Office of the Inspector General audit team assigned to independently review the cost schedule and technical performance of large, classified acquisition programs.



PRESENTERS



Eric Fejka

Cost Estimator

National Nuclear Security Administration

With NNSA since 2019, Eric recently went on rotation for an entire year at the Pentagon with the Office of the Secretary of Defense Cost Assessment Program Evaluation where he developed the Independent Cost Estimate for the Mk21a Re-entry Vehicle. Prior to joining NNSA, Eric spent the first seven years of his career working at Naval Warfare Center Carderock Division supporting the Littoral Combat Ship program on cost estimates. Eric holds a Bachelor of Science degree in Statistics and Minor in Actuary Science and is working towards his Masters in Bio-Statistics from Penn State World Campus. Eric is also a Project Management Professional.



Cash Fitzpatrick

Director of the Office of Programming, Analysis & Evaluation

National Nuclear Security Administration

Cash oversees a range of analytical and policy functional areas including programmatic cost estimating, analyses of alternatives, enterprise modeling, and planning studies in his role as Director of Programming, Analysis & Evaluation for NNSA. Cash is currently CEAG Council Chair on behalf of NNSA. He previously worked for the Office of Cost Policy and Analysis, DOE's Renewable Energy programs, and the Office of Cost Analysis for the DOE-CFO. He holds B.S. and M.S. degrees in Environmental Engineering from Cal Poly and Massachusetts Institute of Technology, respectively.





PRESENTERS

Stephanie Greco

Infrastructure Systems Analyst
Lawrence Livermore National Laboratory

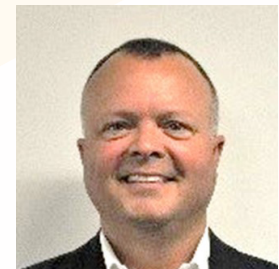
As part of the Office of Laboratory Infrastructure, Stephanie focuses on analytics and visualizations to aid in assessing the health and future path of LLNL's assets. She holds a degree from San Jose State University in Applied Mathematics with a specialization in Economics and Actuarial Science. Stephanie was an accomplished Cosmetologist for over a decade prior to joining the Lab, bringing a unique and creative perspective to asset management.



Keith Grindstaff

Baseline Management Program Director
Los Alamos National Laboratory

Keith has thirty years of experience in project and program management in both private and federal service. His experience includes cost estimating, scheduling, risk management, earned value management systems, performance reporting, acquisitions development and he has focused his career on Project/Program Management and development. Keith spent most of his career working at the Department of Energy Hanford Site in Richland, Washington. He is currently responsible for the Associate Lab Director for Weapons Production baseline assurance to project management best management practices, integrated baseline development, and baseline change control.



PRESENTERS



Haley B. Harrison

Office of Management and Budget
National Nuclear Security Administration

Haley is an NNSA Graduate Fellowship Program (NGFP) Fellow supporting the Office of Management and Budget within the NNSA. Haley earned a doctorate in nanoscience from the University of North Carolina at Greensboro preceding her appointment within the fellowship.



Alexandra Housh

Analyst
Office of Programming, Analysis, and Evaluation
National Nuclear Security Administration

Ali began working with the Office of Programming, Analysis and Evaluation as a National Nuclear Security Administration graduate fellow (NGFP) in 2021-2022. She has since modeled special nuclear material quantities to estimate facility hazard category, led a team in early-stage capital acquisition planning and development of cost/schedule estimates, and manages the annual Datathon. Ali earned a B.S. in Biology and Chemistry from Heidelberg University in Tiffin, OH and holds a Ph.D. in radiochemistry at the University of Missouri- Columbia.



PRESENTERS

Dr. David Hulett

President, Hulett & Associates, LLC
Contracted to National Nuclear Security Administration
Program Analysis & Evaluation

David is recognized as a leader in developing concepts and methods for integrated quantitative project cost and schedule risk analysis and applying them on large commercial and government projects. He works with international companies developing software for schedule and integrated cost-schedule risk analysis using Monte Carlo methods. David was admitted as a Fellow of the Association for the Advancement of Cost Engineering (AACE) International in 2015 and received the Brian D. Dunfield Educational Service Award from AACE in 2018. He received his Ph.D. in Economics from Stanford University and his B.A. from the Special Program for Public and International Affairs (Woodrow Wilson School) at Princeton University.



Brianne T. Kacerguis

Program Analyst, Defense Programs
National Nuclear Security Administration

Brianne assists with cost, scope, schedule, risk, quality, and financial activities to ensure the nation sustains safe, secure, and effective nuclear weapons. She works for the Resource Management Team within the Office of Stockpile Management. The team coordinates activities and deliverables for the Programming, Planning, Budgeting, and Evaluation) processes. Brianne holds a bachelor's degree-concentration in Business Administration, Communication, and Spanish from the University of Arizona, Tucson and is a Project Management Institute Professional in Business Analysis.



PRESENTERS



Alan Karickhoff

Lead Analyst
Technomics, Inc.

As an analyst in the Energy Analytics-Based Program Management Practice Area (EAPM) at Technomics, Alan develops innovative program evaluation tools and databases to serve clients within the Department of Energy. He leverages previous experience as an economic analyst for the trucking industry and as a survey statistician at the U.S. Census Bureau. Alan holds an M.P.S. degree in Applied Economics from the University of Maryland, College Park and a B.A. degree in Economics from Dickinson College in Carlisle, PA.



Maura Lapoff

Senior Associate
Technomics, Inc.

Maura is an Analyst at Technomics, Inc. supporting the NNSA Office of Programming, Analysis, and Evaluation. She has a B.S. in Neuroscience and is pursuing a MAIS in Computational Social Science from George Mason University. Prior to joining Technomics, she was a NGFP Fellow supporting the Office of Nuclear Material Integration. She also has experience supporting the DoD and USAID.





PRESENTERS

Philip Larson

Estimating Systems, Tools, and Integration Lead
Los Alamos National Laboratory

Phil focuses on optimizing with WinEst for the estimating team at LANL. He is an internationally recognized expert in Building Information Modeling (BIM) as it relates to estimating, scheduling, and project controls, with over 40 years of experience in the AEC and related software industry. As capital projects estimator for the Sea-Tac airport, Phil worked on over \$1.0B worth of projects including both the NorthSTAR and IAF programs. Phil is Past President and a Fellow of AACE International, where he is serving as co-chair of AACE's BIM Committee.



Alfred Levinson

Lead Analyst
Technomics, Inc.

Alfred "Lev" Levinson is a lead analyst for Technomics, Inc. with over six years of experience in analysis and project management. For the last three years, Lev supported the NNSA, providing support mainly in the area of Analysis of Alternatives Leadership including cost, schedule, and risk analysis. Lev holds a Bachelor of Science degree in Mechanical Engineering from the Virginia Commonwealth University. He is a Certified Associate in Project Management from the Project Management Institute and an ICAgile Certified Professional.



PRESENTERS



David Livchak

Analyst
Technomics, Inc

David supports the Office of Programming, Analysis and Evaluation in the areas of data modeling and cost estimating. In his free time, he enjoys playing and creating music and has an inherent curiosity to learn new things.



Fred Long

Program Manager, Contractor
Los Alamos National Laboratory

Fred has supported the Program for Weapons Production at LANL for the past two years. He brings over 30 years' experience in program management & controls, finance, and business management. Fred's background includes leadership of capital program and portfolio performance reporting process and systems. He has an extensive background leading program controls on large multi-billion-dollar programs. Fred holds a B.S. in Construction Management and an Executive MBA.





PRESENTERS

Tyler Loritsch

Lead Analyst
Technomics, Inc.

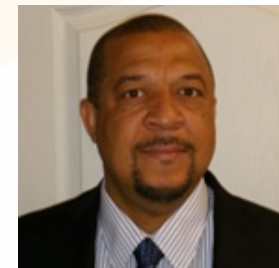
Tyler joined Technomics in August 2022 supporting the NNSA where he provides cost estimate work and schedule analysis for planning studies. He also performs cost and schedule growth analysis of NNSA projects in support of an NNSA-wide initiative. Prior to joining Technomics, Tyler worked in cost/data analysis and management operations for a number of finance, technology, and non-profit firms.



Previn Martin

Office of Stockpile Management
Contracted to National Nuclear Security Administration

Previn has been a support service contractor to the Department of Energy, National Nuclear Security Administration, Defense Programs since 2000. He currently provides Senior Management Consulting/SME support to the NNSA Office of Stockpile Management Resource Management Team. The team coordinates activities and deliverables for the Programming, Planning, Budgeting, and Evaluation processes. Previn holds an M.B.A. from the University of Phoenix in Business Enterprise System Technology Management, a B.A. from the University of South Florida in Geography – Urban/Environmental Planning and is a certified Project Management Professional.



PRESENTERS



Zachary Matheson, Ph.D.

Physical Scientist
National Nuclear Security Administration

Zachary joined the National Nuclear Security Administration in 2019 after completing a dual Ph.D. in Nuclear Physics and Computational Math, Science, and Engineering from Michigan State University. In June 2020, he moved into his current position in the Office of Programming, Analysis, and Evaluation, where he uses modeling and simulation to support NNSA planning and budgeting.



Mark Matyas

Senior Operations Research Analyst
Office of Cost Estimating and Program Evaluation
National Nuclear Security Administration

Prior to joining NNSA CEPE, Mark worked at the Office of the Deputy Assistant Secretary of the Army for Cost and Economics and the Naval Sea Systems Command as a veteran cost estimator and analyst. Mark has a Bachelor of Arts Degree in Math and Spanish and achieved his Master of Business Administration from West Virginia Wesleyan College. He is currently working on the Independent Cost Reviews for the Next-Generation Pulsed Power facility and Los Alamos Neutron Science Center (LANCSE) Modernization Project (LAMP).





PRESENTERS

Daniel McCollom, J.D.

Senior R&D S&E Systems Analyst
Sandia National Laboratories

After completing his J.D., Daniel served as an NNSA Graduate Fellow in Acquisition and Program Management and Weapons Dismantlement and Disposition. After his fellowship experience, Daniel joined Sandia's Legal/Prime Contract group working to resolve organizational conflicts of interest in Nuclear Deterrence and Supply Chain. Currently, Daniel works as a Senior R&D S&E Systems Analyst in Sandia's Nuclear Security Enterprise and Cost Analysis organization where he is involved in developing cost estimates for nuclear weapon systems. He has a B.A. and J.D. from the University of New Mexico.



John Ortiz

Assistant Director
Government Accountability Office

John is a subject matter expert for GAO's technology readiness assessment best practices guide used by NNSA and other federal agencies. His 33 years as a civil servant encompasses a wide spectrum of technology reviews that includes nuclear weapons monitoring capabilities, biodefense, weapon systems, cloud computing, and cybersecurity. Some of his recent work includes an assessment of the Department of Homeland Security's efforts to replace BioWatch, as the early warning system to detect potentially catastrophic aerosolized biological attacks. Other work includes assessments of the COVID-19 vaccines during the height of the pandemic.



PRESENTERS

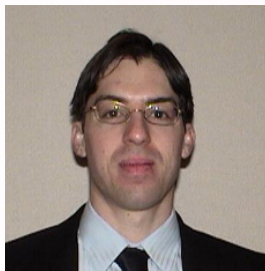


Synthia Pereyra

Analyst

Sandia National Laboratories

Synthia works for the Systems Research and Analysis Group at Sandia and is currently on temporary assignment with the National Nuclear Security Administration as a technical advisor to Defense Programs in the Office of Programming Analysis and Evaluation. She has spent 10 years at Sandia working in the Nuclear Security Enterprise supporting the non-proliferation mission. Synthia is an alumni of Creighton University and Northwestern University holding degrees in Accounting, Financial Risk Management and Data Analytics.



Andrew Romich, Ph.D.

R&D S&E Systems Analyst

Sandia National Laboratories

Andrew has engaged in engineering analysis work for several NSE-supporting projects at Sandia over the past nine years. Notably, he led development of the Concept of Operations documentation for the W88-0/Mk5 ALT 940 Systems Team, utilizing simulation model output to analyze a variety of logistics planning parameters for Integrated Surety Architecture deployed hardware. Andrew currently supports Sandia's NSE and Cost Analysis Department where he is involved in several stockpile planning analyses. He has a B.S., M.S., and Ph.D. in Industrial and Systems Engineering from the University of Florida.





PRESENTERS

Abby Schendt

Lead Analyst, Technomics, Inc.
Contracted to National Nuclear Security Administration
Cost Estimating Program Evaluation

Abby supports the NNSA in cost estimating and data driven decisions and recommendations. She previously worked at Rand Corporation on acquisition policy and support using modeling to inform policy recommendations. Abby is a graduate of the University of Maryland-College Park, with a MPS in Applied economics, and Rose Hulman Institute of Technology, with a B.S. in Physics, Mathematics and Economics.



Dylan Schmerer

Technical Facility Analyst
Lawrence Livermore National Laboratory

Dylan joined LLNL's Office of Laboratory Infrastructure in 2020 after his graduation from the University of California, Santa Barbara with a degree in Economics. During his undergraduate study and work as a research assistant, Dylan developed skills in statistical computing using R and Python which he uses at the Lab to develop infrastructure cost and risk models. In addition to his responsibilities at LLNL he is currently pursuing a master's degree in Quantitative Economics at the University of California, Los Angeles.



PRESENTERS



Leah Scott

Consolidated Nuclear Security, LLC
Pantex and Y-12 National Security Laboratory

Leah has been with Consolidated Nuclear Security, LLC since 2021. She supports daily operations for both Pantex and Y-12, focusing on estimating processes, procedures, and tools. At Y-12, Leah has also been involved with the weapons life extension programs for the last two years. Leah has a Bachelor of Science degree in Criminal Justice as well as a Master's in Digital Forensics from the University of the Cumberland.



Patrick Shelton

Associate
Technomics, Inc.

Patrick has supported the Office of Programmatic Analysis and Evaluation under the National Nuclear Security Administration's Office of Management and Budget for the last three years. He primarily produces and leads cost estimates for analyses of alternatives and other early stage capital acquisition projects, with a focus on creating and improving defensible, data-driven methodologies and models. Patrick holds Bachelor of Science degrees in Marketing and Political Science from Penn State University's Schreyer Honors College.





PRESENTERS

Sarah Summers

Systems Integration Project Manager, W80-4 and W87-1 Programs
Sandia National Laboratories

Sarah currently leads capability development efforts to streamline reporting, increase transparency across sites, and standardize data and metrics across ND modernization programs. She has worked in project management at Sandia for 11 years and has spent the last five years leading project management efforts in ND modernization programs. Prior, Sarah has supported projects for DOE Environmental Restoration as well as multiple offices of the Department of Homeland Security. She holds a Master of Business Administration and a B.S. in Journalism Broadcasting, both from Oklahoma State University.



Lorrie Tietze

Founder & Manager, Interface Consulting
Contracted to National Nuclear Security Administration
Federal Program Office of Stockpile Modernization

Lorrie has assisted clients in achieving and sustaining fundamental change and improved results for over 25 years. She has provided training and consulting to global Fortune 30 companies, Mid-Tier Companies, Government, and Not-For-Profit Organizations. Lorrie has trained thousands of people in 28 countries, across commercial industries and state and federal governments in the processes, tools, and implementation of project analytics/controls and schedule/cost/joint risk analysis. She is a certified trainer for the Deltek Acumen Suite and for Oracle Primavera Risk Analysis. Lorrie has two degrees in nuclear engineering and has held operational, engineering, and project implementation positions with a multi-national Fortune 30 company.



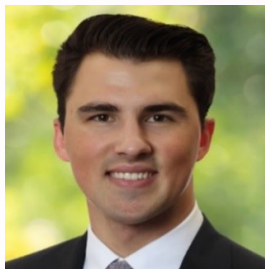
PRESENTERS



William Todd

Senior Scientist
National Nuclear Security Administration

Bill has over 30 years of experience in data analysis, model development, cost analysis and project management. Prior to joining the Office of Programming, Analysis and Evaluation at DOE NNSA, he worked for Air Force Studies, Analysis, and Lessons Learned (AF-A9) and supported the Office of the Secretary of Defense Cost Assessment and Program Evaluation as a contractor. Bill currently leads the model development and cost estimate support for weapons major modernization and supports Analyses of Alternatives with model development and cost analysis. He began his career as a chemistry professor with the State University of New York system.



Tristan Tucker

Data Analyst
Lawrence Livermore National Laboratory

For the last three years, Tristan has specialized in infrastructure, workforce, and materials throughput enterprise modeling in order to help drive decision making efforts at LLNL. He currently holds an M.S. in Finance from Vanderbilt University in Tennessee and a B.S. in Quantitative Finance with a Minor in Computer Science from Stevens Institute of Technology in New Jersey.





PRESENTERS

Jenna Vandervort

Analyst, Technomics, Inc.

Contracted to the National Nuclear Security Administration
Office of Management and Budgeting

Jenna is a senior associate at Technomics and has supported NNSA's Office of Management and Budgeting since the spring of 2021, using data analytics and statistics to support modeling and cost estimating capabilities. She graduated with a B.S. in Industrial Engineering and a Minor in Mathematics from Worcester Polytechnic Institute.



Eric White

Enterprise Estimating Manager

Pantex and Y-12 National Security Laboratory

Eric has been the Consolidated Nuclear Security, LLC Enterprise Estimating Manager for both Pantex and Y-12 for eight years focused on consolidating estimating processes, procedures, and tools. At Y-12, he has been involved with project planning, estimating, and controlling infrastructure improvement small projects, line item projects, as well as the weapons life extension programs for the last thirteen years. Eric has a Bachelor of Science degree in Industrial Technology from Tennessee Technological University as well as a Master's in Engineering Management from the University of Tennessee.



PRESENTERS



Elizabeth Withey

Principal Systems Engineer
Sandia National Laboratories

Liz is a Systems Engineer for Advanced and Exploratory Weapon Systems. She previously worked as a Systems Analyst and Principal Investigator for Technology Maturation at Sandia. Liz holds a B.S. in Materials Engineering from Purdue University and a Ph.D. in Material Science and Engineering from the University of California, Berkeley.



Raymond Woods

Senior Engineering Specialist
The Aerospace Corporation

Raymond has over 30 years of experience in the aerospace industry, including significant cost estimating and acquisition planning. He recently supported project cost risk assessments for the National Science Foundation, including an Independent Cost Estimate and reviews for infrastructure projects. Ray has supported government, Systems Engineering and Technical Assistance contractors, and FFRDC organizations, supporting a myriad of civil and national security missions, including aircraft, space, missile systems, ground networks. Ray has a Bachelor of Science in Aerospace Engineering from West Virginia University, and a Systems Engineering certification from CalTech. He served as an Air Force officer, originally in aircraft operations then in space systems acquisition.





PRESENTERS

Amanda Wright, Ph.D.

Senior R&D Systems Analyst
Sandia National Laboratories

Amanda is a plant network science and statistics based Subject Matter Expert with more than 15 years' experience delivering leading-edge research analytics and developing comprehensive systems initiatives to guide and inform industry practices at the state, federal, and global levels. Prior to joining Sandia, she was a program specialist with the Farm Service Agency (FSA) USDA in Albuquerque, NM. Amanda received her M.S. and Ph.D. in Plant Pathology from the University of Florida and her B.S. in Biological Sciences from Clemson University.





LIST OF ACRONYMNS

AACE	<i>Association for the Advancement of Cost Engineering</i>
ACE	<i>Alternative Cost Estimate</i>
ALD	<i>Associate Laboratory Director</i>
ALT	<i>Alternative</i>
BS	<i>Bachelor of Science</i>
CAPE	<i>Cost Assessment Program Evaluation</i>
CEAG	<i>Cost Estimating Analysis Group</i>
CECOP	<i>Cost Estimating Community of Practice</i>
CEPE	<i>Cost Estimating and Program Evaluation</i>
CER	<i>Cost Estimating Relationship</i>
COCS	<i>Common Occupational Classification System</i>
CPA	<i>Certified Public Accountant</i>
CR	<i>Cost Review</i>
CRES	<i>Comprehensive Records & Estimating System</i>
DES	<i>Discrete Event Simulation</i>
DOE	<i>Department of Energy</i>
DOE-CFO	<i>Department of Energy-Chief Financial Officer</i>
EAPM	<i>Energy Analytics-Based Program Management</i>
EERS	<i>Enterprise Estimating Request System</i>
EVMS	<i>Earned Value Management Systems</i>
FFRDC	<i>Federally Funded Research and Development Centers</i>
FPO	<i>Federal Program Office</i>
FSA	<i>Farm Service Agency</i>
FY	<i>Fiscal Year</i>
GAO	<i>Government Accountability Office</i>





LIST OF ACRONYMS

HR	<i>Human Resources</i>
ICE	<i>Independent Comprehensive Estimate</i>
ICR	<i>Independent Cost Review</i>
ICER	<i>Independent Comprehensive Estimate Reviewer</i>
IP&S	<i>Integrated Planning and Scheduling</i>
ISA	<i>Integrated Surety Architecture</i>
LAMP	<i>LANCSE Modernization Project</i>
LANCSE	<i>Los Alamos Neutron Science Center</i>
LANL	<i>Los Alamos National Laboratory</i>
LLNL	<i>Lawrence Livermore National Laboratory</i>
M&O	<i>Management and Operations</i>
MAIS	<i>Master of Arts in Interdisciplinary Studies</i>
MBA	<i>Master of Business Administration</i>
MP	<i>Modification Program</i>
MPS	<i>Master of Professional Studies</i>
NASA	<i>National Aeronautics and Space Administration</i>
NATO	<i>North Atlantic Treaty Organization</i>
ND	<i>Nuclear Deterrence</i>
NGFP	<i>NNSA Graduate Fellowship Program</i>
NNSA	<i>National Nuclear Security Administration</i>
NSE	<i>National Security Enterprise</i>
NWAP	<i>Nuclear Weapons Acquisition Professional</i>
OSD	<i>Office of Secretary of Defense</i>
PA&E	<i>Programming, Analysis and Evaluation</i>
PMO	<i>Portfolio Management Office</i>





LIST OF ACRONYMNS

PMP	<i>Project Management Professional</i>
PPBE	<i>Programming, Budgeting, and Evaluation</i>
QRA	<i>Qualitative Risk Analysis</i>
R&D	<i>Research and Development</i>
S&E	<i>Systems and Engineering</i>
SCORE	<i>Scope, Complexity, Options, Risks, Excursions</i>
SCRAMM	<i>Schedule and Cost Risk Analysis Maturity Model</i>
SME	<i>Subject Matter Expert</i>
USAID	<i>United States Agency for International Development</i>
USDA	<i>United States Department of Agriculture</i>
WBS	<i>Work Breakdown Structures</i>
WDCR	<i>Weapon Design and Cost Report</i>
WQD	<i>Weapon Quality Division</i>





CECOP SYMPOSIUM 2023 PLANNING COMMITTEE

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Shane Farris	CNS
Hannah Goldstein	LLNL
Terry Mantle	LLNL
Kathy Lane	SNL
Phil Chamberlin	SNL
Daniel McCollom	SNL
Cameron Stern	LANL
Desiree Maes	LANL
Jenna Casias	LANL
Maura Lapoff	NNSA
Synthia Pereyra	NNSA
Maranda Wing	LLNL
Courtney Pompa	NNSA
Rhonda Tiller	SRS





CEAG COUNCIL & SITE REPRESENTATIVES

CEAG COUNCIL MEMBERS	
Cash Fitzpatrick - CEAG Chair	NNSA
Eric White	CNS
Ellie Hilts	KCNSC
Tri Duc Tran	LANL
Carol Meyers	LLNL
Christopher Good	NNSS
Jonell Samberson	SNL
Jason Wilson	SRS
CEAG SITE REPRESENTATIVES	
Cameron Ayers	KCNSC
Steve Blake	KCNSC
David Parobek	LANL
Tanya Moore	LANL
Lea Fresques	LLNL
Krista Lathery	NNSS
Phil Chamberlin	SNL
Chris Nesbit	SNL
Rhonda Tiller	SRS
CEAG SUPPORT PERSONNEL	
Synthia Pereyra (Detailee)	NNSA
Maura Lapoff	NNSA





ANNOUNCEMENTS



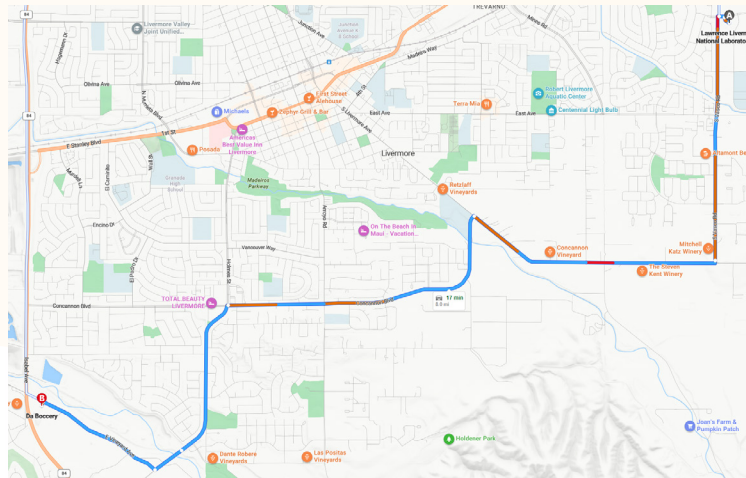
EVENING SOCIAL

Thank you to everyone who will be joining us for a Networking Social at Da Boccery in Livermore! We will be serving an assortment of appetizers and non-alcoholic beverages. In addition, bocce ball courts will be available for those in attendance.

daboccery.com

Tuesday, August 1st
5:00 – 7:00 PM

175 E Vineyard Avenue
Livermore, CA 94550
(925) 201-3353



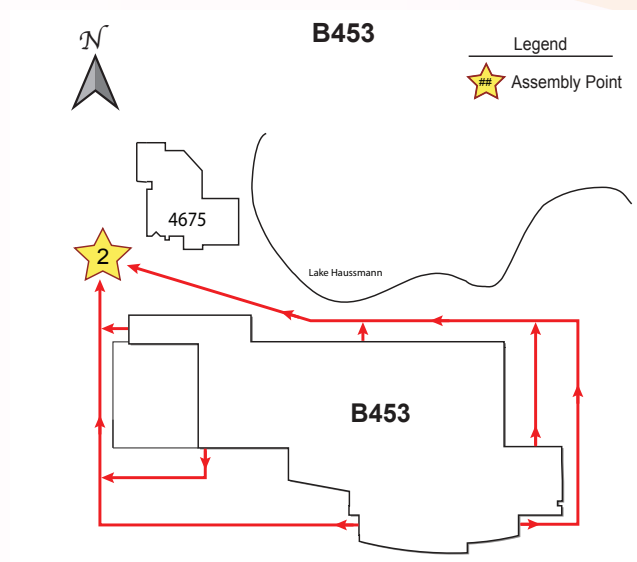
CECOP SYMPOSIUM 2024

July 23-25, at Sandia National Laboratories in Albuquerque, NM

FOR RESCUE OR MEDICAL PURPOSES

Call 911 (925-447-6880 from a cell phone) and provide the following information:

- Type of emergency
- Location of the victim
- Condition of the victim
- Any dangerous conditions
- Do not move the individual unless authorized by a medical authority, or it is obvious that delay in movement would be detrimental.



Fire Department Dispatch (Non-Emergency): 925-422-7595

Protective Services Operations: 925-422-7222

Public Affairs Employee Notification: 925-424-LLNL

Emergency Programs Office: 925-424-6045

SHELTER IN PLACE

Notification to Shelter-In-Place will be made by Fire Dispatch, using the Emergency Voice Alarm (EVA) System; or by uniformed Fire Department or Protective Force Officers. Notification announcements will identify whether the threat is hazardous materials or a security concern.

If directed to do so, all facility occupants shall proceed to the following safe gathering points within the facility.

Location 1: 2nd Floor Northwest Hallway

Location 2: 1st Floor 1130 Loading/Staging Area

TID #70692



