CECOP

COST ESTIMATING COMMUNITY OF PRACTICE

WORKING TOGETHER.
ONE MISSION. ONE VISION. ONE NSE.

8TH ANNUAL SYMPOSIUM
Sandia National Laboratories

JULY 23 - 25, 2024 | ALBUQUERQUE, NM

WIRELESS ACCESS

Please check your welcome packet for your Wi-Fi username, password and instructions.

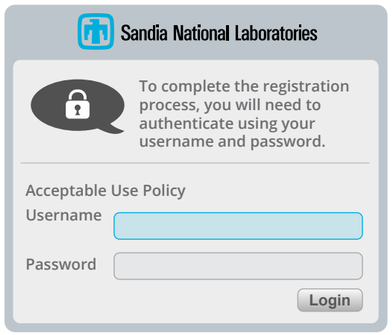
The guest wireless network provides a hotspot type of environment allowing internet access for non-government owned devices. This service is available across the site and broadcast with the name Sandia Hotel Network (SHN).

By using this system, the visitor agrees to Sandia's corporate business rules regarding computer use. If a visitor user engages in behavior that concerns the Wireless IDS team, the host will be sent an email directing them to correct the behavior. If the behavior is not corrected within four hours of the IDS team sending an email, the visitor user will be blacklisted from the system.

Log in instructions:

Apple iPhone was used for this example to create instructions on how to select SHN as your Wi-Fi Network.

1. From your device open **Settings**.
2. **In Wi-Fi Network select SHN** from the list of available wireless networks.
   a. Tip: If you don't have a strong internet connection, you may need to refresh a few times before the SHN Network appears.
3. The complete registration box will appear for you to **enter your Username and Password** which is located in your welcome packet.



WELCOME FROM SANDIA NATIONAL LABORATORIES

JONELL SAMBERSON
MANAGER, R&D SCIENCE AND ENGINEERING
NUCLEAR WEAPONS & NUCLEAR SECURITY ENTERPRISE SYSTEMS ANALYSIS
CEAG SANDIA COUNCIL MEMBER

On behalf of the Cost Estimating Analysis Group (CEAG) Council and our National Nuclear Security Administration (NNSA) sponsor, Office of Management and Budget's Office of Programming, Analysis, and Evaluation, welcome to the eighth annual Cost Estimating Community of Practice (CECOP) Symposium, hosted by Sandia National Laboratories in Albuquerque, NM.

CECOP provides a truly collaborative environment — bringing together estimating colleagues from across the nation to exchange information, network, and collaborate. Throughout the year, the community has contributed to projects related to best practices, capital project estimate development and reviews, exploration of new methodologies, analysis and applications of risk, and more. Together, the entire community continues to make strides to improve the estimating discipline.

This year's event will include messages from keynote speakers and presentations and trainings from estimating colleagues with a wide array of expertise in the areas such as best practices, estimating guidance, estimation improvement, program management, risk, and scheduling with applications to weapons and capital projects. Networking breaks, as well as a social event on Tuesday night, are included in this year's schedule. Please take advantage of this time to connect with your colleagues and enjoy a private event at the renowned National Museum of Nuclear Science & History. Take some time to enjoy our beautiful Land of Enchantment and unique New Mexican cuisine.

The importance of estimating continues to increase in our resource constrained environment. Your contributions to the nation are vital! We hope you learn and grow during your time at the symposium and become even stronger in your field as a result.

Sincerely,

Dr. Jonell N. Samberson

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, Modeling Working Group, and Training Working Group where federal and site analysts can openly communicate and share best practices and 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.

CEAG Council Members	Site	Site Representatives	Site
Cash Fitzpatrick, CEAG Chair	NNSA	Cameron Ayers	KCNSC
Eric White	Y-12	Steve Blake	KCNSC
Nathalie Lemmon	PX	David Parobek	LANL
Ellie Hilts	KCNSC	Todd Proffitt	LANL
Tri Duc Tran	LANL	Kathy Dean	LLNL
Carol Meyers	LANL	Krista Lathery	NNSS
David Reinhold	NNSS	Phil Chamberlin	SNL
Jonell Samberson	SNL	Chris Nesbit	SNL
Jason Wilson	SRS	Rhonda Tiller	SRS
CEAG Support Personnel	**Site**	Russ Howell	PX
Lauren McAuley, Detailee	NNSA	Richard Justice	PX
Amanda Schwark	NNSA	Randy Miller	Y-12

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 (NSE). 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 NSE. 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.

2024 CECOP Symposium Planning Committee Members			
Daniel McCollom	SNL	Desiree Sandoval Maes	LANL
Lauren McAuley	NNSA/Detailee	Cameron Stern	LANL
Amanda Schwark	NNSA	David (Shane) Farris	CNS
David Masciarelli	NNSA	Rhonda Tiller	SRS
Hannah Goldstein	LLNL	Mary Archuleta	SNL
Terry Mantle	LLNL		

KEYNOTE SPEAKER DAY 1
DARYL J. HAUCK, Ph.D.
MANAGER SANDIA FIELD OFFICE
ALBUQUERQUE, NEW MEXICO

Dr. Daryl Hauck is the Manager of NNSA's Sandia Field Office (SFO) in Albuquerque, New Mexico, a position he has held since August 2021. He is responsible for the overall administration of the Sandia National Laboratories contract (~$4.8 billion/year), the day-to-day administration of the SFO, and oversight of Laboratory operations. The Labs' mission is stockpile stewardship and national security research and development. Hauck is a member of the Senior Executive Service.

Prior to becoming SFO Manager, Dr. Hauck served as the Program Executive Officer for Stockpile Modernization in NNSA's Office of Defense Programs. He was responsible for completing the cost, schedule, and performance goals of the major modernization programs including the B61-12 Life Extension Program, the W88 Alteration 370, the W80-4 Life Extension Program, and the W87-1 Modification Program. Dr. Hauck joined the NNSA in June 2016.

Dr. Hauck is a retired U.S. Air Force brigadier general, with previous assignments as the Program Executive Officer for Strategic Systems; the Program Executive Officer for Intelligence, Surveillance, Reconnaissance, and Special Operations Forces programs; and Vice Commander of the Aeronautical Systems Center. He also commanded an electronic systems group at Hanscom Air Force Base, and two aeronautical systems wings at Wright-Patterson Air Force Base.

Dr. Hauck graduated from the U.S. Air Force Academy in 1986 with a Bachelor of Science in operations research. He earned his Ph.D. in industrial engineering from Arizona State University; a Master of Science in systems management from the Air Force Institute of Technology; a Master of Military Arts from the Air Command and Staff College; and a Master of Military Arts from the Air War College, where he was awarded the Douhet-Mitchell International Airpower Trophy for the paper that best demonstrates extraordinary vision and foresight into the future military aerospace requirements of the United States.

KEYNOTE SPEAKER DAY 2
CHARLEY D. HUNT
OFFICE OF THE CHIEF FINANCIAL OFFICER
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Mr. Charles Hunt is currently a Senior Technical Leader for Programmatic Analysis for the NASA Headquarters, Strategic Insights and Budget Organization within the Office of the Chief Financial Officer. His current responsibilities include establishing and maintaining NASA cost estimating and schedule management policy, conducting and funding cost and schedule research, providing tools and models to the broader NASA cost and schedule community, and coordinating programmatic support for Agency Independent Review Teams.

Mr. Hunt joined NASA Headquarters in 2007. He began his career as a cost analyst for the Engineering Cost Office at Marshall Space Flight Center performing numerous cost estimates in support of projects, studies, and Agency level analysis.

Mr. Hunt is a graduate of Tennessee Technological University with a Bachelor of Science in Industrial and Systems Engineering and of The Johns Hopkins University with a Masters of Art in Applied Economics.

SCHEDULE DAY 1

LOCATION: SCHIFF AUDITORIUM

START	END	DAY 1 - STEVE SCHIFF AUDITORIUM
8:30 AM	9:00 AM	**Check In/Breakfast**
9:00 AM	9:05 AM	**Welcome and Opening Remarks – Cash Fitzpatrick**
9:05 AM	10:05 AM	**Keynote Speaker — Daryl Hauck or Charley Hunt**
10:10 AM	10:55 AM	**CEAG Overview and Key Initiatives – Cash Fitzpatrick** CEAG focuses on improving programmatic cost estimating by cultivating expertise, experience, and excellence across the nuclear security enterprise. This briefing provides an overview of CEAG's organization and ongoing projects, with an emphasis on how interested audience members can engage in these efforts.
10:55 AM	**11:10 AM**	**NETWORKING BREAK**
11:10 AM	11:40 AM	**Risk 101 —Basic Risk Management Principles – Robert Webb** Robert will present the basic risk management principles, practices, and techniques used when managing risk management programs. Starting with basic risk management language, he will cover each of the process steps and highlight key focus areas of concern. Non-presenting author is Cara Striegold, LANL.
11:45 AM	12:15 PM	**The Nuclear Option — Avoiding Critical Delays with Advanced Constraints Analysis – Hannah Hoag Lee** This presentation demonstrates how a constrained phasing model uses historic project cost and schedule data to estimate a new project timeline based on a constrained funding profile and reveals how the model re-phases costs for the remainder of the project duration to generate a viable execution plan.
12:15 PM	**1:15 PM**	**LUNCH**
1:15 PM	2:00 PM	**Sandia's Cost Estimation Improvement Journey – David McLain** Explore the journey of Sandia's cost estimating improvement efforts starting as early as 2013. Through various assessments, Sandia's cost estimation areas for improvement began to emerge and is continuing the journey of improvement initiatives to support all mission areas across the Laboratories.
2:05 PM	2:50 PM	**Risk Informed Scheduling for NNSA Explosives Production – Shar Rayhan** The development of a risk informed scheduling methodology has improved material delivery date forecasts by leveraging historical schedule data and Monte Carlo simulation addressing the Insensitive High Explosives schedule. This methodology helps achieve the level of efficiency needed to conduct the Schedule Uncertainty and Risk Analysis in a quick-turn capacity to meet stakeholder needs.
2:50 PM	**3:20 PM**	**NETWORKING BREAK**
3:20 PM	3:50 PM	**Characterizing and Managing Disruptive Cascades – Kaitlin Peach** This presentation includes details of the disruption framework, taxonomy, peak-over threshold model, and results that highlight the importance to cost estimating and analysis professionals as they seek to improve sensitivity, risk, and uncertainty analysis across the Nuclear Security Enterprise.
3:55 PM	4:25 PM	**Justifying Facility Sizing and Cost with Discrete Event Modeling – Lilliane Habib and Christopher Russell** Collecting FTE employee data allows groups to determine if they will be able to meet their goals with their current workforce or will require additional resources. This presentation overviews the metadata and collection methods of the data, then go into distinct examples of when and how the data has influenced decision making processes and cost estimation in those scenarios.
4:30 PM	5:00 PM	**Evaluating Project Cost of Construction to NA-90 PMP Requirements – Christopher Nesbit** SNL has developed a graded approach to address cost confidence modeling for Minor Construction projects, especially those required for NA-90 PMP budget proposal and project development requirements. This tool leverages existing subcontractor and self-performed quantity surveys and cost estimates at the Class 3 definition level.
5:00 PM		**END OF DAY 1 - Social Event at the National Museum of Nuclear Science & History at 5:30 PM**

SCUR-A-Thon 2:00 - 4:00PM
John A. Gordon Albuquerque NNSA Complex, Room 1-506

LOCATION: BUILDING 822/ROOM 109

START	END	DAY 1 - BUILDING 822/ROOM 109
8:30 AM	9:00 AM	**Check In/Breakfast**
9:00 AM	9:05 AM	**Welcome and Opening Remarks – Cash Fitzpatrick**
9:05 AM	10:05 AM	**Keynote Speaker — Daryl Hauck or Charley Hunt**
10:10 AM	10:55 AM	**Challenges in Implementing GAO's Estimating Best Practices – Michael R. Nosbisch** Over the past year, Mike conducted formal estimating training and audits in accordance with GAO's best practices and identified the four areas most challenging for M&Os to implement, whether cultural or technical. This presentation discusses these areas of challenge and provides the M&Os recommendations for effectively addressing them at the site-level.
10:55 AM	**11:10 AM**	**NETWORKING BREAK**
11:10 AM	11:40 AM	**21st Century Enablers for Improving Cost Prediction Accuracy – James Arrow** This presentation considers the enablers that organizations may employ to embrace a future of AI-enabled capital project decision-making. Highlights include the proven tools and techniques that can deliver data-driven, fact-based decision-making.
11:45 AM	12:15 PM	**Mega Projects Around the World – Thomas Cook** A mega project is defined as costing greater than $1 billion. This study investigates mega projects around the world and compares them to NNSA performance and applied reference class forecasting to inform NNSA project cost and schedule estimates for the portfolio of pit production projects.
12:15 PM	**1:15 PM**	**LUNCH**
1:15 PM	2:00 PM	**Design Reuse and Its Impact Within KCNSC NW Programs – Kenon Kawase** This study assesses the impact of component reuse on product realization from KCNSC's perspective and is complimentary to SNL's FY23 analysis "Exploring the Great Divide – A Technology Maturation and Design Reuse Study." Internal data, including programmatic schedules and PRT costs, were collected and analyzed to form a holistic understanding of reuse at KCNSC using case studies.
2:05 PM	2:50 PM	**NNSA's History of Program Management Challenges – Juaná S. Collymore** This presentation examines NNSA's Production Modernization programs and major projects and how NNSA manages them—the extent to which NNSA effectively uses schedules to ensure integration, effectively uses cost estimates, and the extent to which NNSA has met GAO best practices for an integrated master schedule and a life cycle cost estimate for achieving their modernization efforts.
2:50 PM	**3:20 PM**	**NETWORKING BREAK**
3:20 PM	3:50 PM	**Selected Findings from the IDA Review of NNSA Capital Project Cost Estimation – David Tate** The Institute for Defense Analyses (IDA) performed an independent assessment of NNSA capital acquisition project cost practices and outcomes. IDA examined both cost estimate growth prior to CD-2 and project cost growth from CD-2 to CD-4. This presentation details areas where NNSA has demonstrated exceptional performance, where NNSA differs from peers or accepted best practice, as well as areas for improvement.
3:55 PM	4:25 PM	**An Econometric Approach to Construction Project Cost Modeling – William Banks and Cameron Webster** The Office of Cost Estimating and Program Evaluation (CEPE) is responsible for developing independent cost estimates on major NNSA and DOE infrastructure programs. CEPE developed a series of robust econometric models to predict the cost and schedule of these programs.
4:30 PM	5:00 PM	**Weapons System Estimating Guidance – David T. Masciarelli** CEAG and NNSA requested updates to templates that communicate requirements for the development of Weapon Design and Cost Reports, Baseline Cost Reports or Baseline Cost Report Updates. Topics discussed include what the templates are and are not, why they are necessary, and how they are used to develop individual program requirements documents.
5:00 PM		**END OF DAY 1 - Social Event at the National Museum of Nuclear Science & History at 5:30 PM**

SCUR-A-Thon 2:00 - 4:00PM
John A. Gordon Albuquerque NNSA Complex, Room 1-506

SCHEDULE DAY 2

LOCATION: SCHIFF AUDITORIUM

START	END	DAY 2 - STEVE SCHIFF AUDITORIUM
8:30 AM	9:00 AM	**Check In/Breakfast**
9:00 AM	9:05 AM	**Welcome and Opening Remarks – Cash Fitzpatrick**
9:05 AM	10:05 AM	**Keynote Speaker — Daryl Hauck or Charley Hunt**
10:10 AM	10:40 AM	**Capital Construction Cost Confidence Model — Deploying Graded Approach - Christopher Nesbit** SNL has developed a graded approach to address cost confidence modeling for Minor Construction projects, especially those required for NA-90 PMP budget proposal and project development requirements. This tool leverages existing subcontractor and self-performed quantity surveys and cost estimates at the Class 3 definition level.
10:40 AM	**10:55 AM**	**NETWORKING BREAK**
10:55 AM	11:25 AM	**Cost Reasonableness Review — A Tailorable Approach for Assessing Unique Projects – Marc Hayhurst and Uzair Irfan** Aerospace, Inc. developed a methodology in partnership with NASA to address the questions and challenges ascertaining the "reasonableness" of unique projects for government customers. Using this method, when it is applicable, the benefits of implementing, and associated products will provide insights to government stakeholders.
11:30 AM	12:00 PM	**Estimating Critical Equipment Repair and Replacement Needs to Ensure High Performance for Weapons Production – Marissa Christman** LANL now integrates assessments on aging and customized manufacturing equipment into cost estimating processes, aiding in the development of equipment lifecycles and short-and long-term maintenance needs. A review of the approach used, its integration into the cost estimating process, and recommendations for future improvements will be presented.
12:00 PM	**1:00 PM**	**LUNCH**
1:00 PM	2:00 PM	**The Coupled Relationship Between Cost Estimating, Financial Performance, and Customer Trust – Scott Holswade** Cost estimates require trust from the customer and stakeholders, and their accuracy combined with financial performance affects the trust level throughout the program. Through a case study of a major satellite payload development program at Sandia National Laboratories, Scott explores this trust relationship.
2:05 PM	3:05 PM	**Portfolio Analysis Methods for Long-Range NNSA Planning – Brandon Schwark** Effective portfolio analysis strategies rely on robust recognition of resource constraints, competing priorities, interdependencies, and executability. This strategy details a flexible, efficient, and analytically rigorous evaluative framework that integrates complex sets of interconnected analyses to assist leadership with data-driven resource allocation.
3:05 PM	**3:35 PM**	**NETWORKING BREAK**
3:40 PM	4:25 PM	**What you see is Watt you get: An NNSA Utility Cost Deep Dive – Patrick Shelton, Matt Siiro, Annie Meenan, and Daniel Puentes** PA&E is now able to parametrically estimate maintenance, utilities, and operations for any NNSA capability. This presentation will demonstrate the functionality and use cases of each CER, discuss their development and the data quality of Facility Information Management System (FIMS), and provide a roadmap to a full Life Cycle Cost Estimating Relationship.
4:30 PM	5:00 PM	**Evaluating the Impact of Tailored Correlation Factors in NNSA Capital Acquisition Projects – Gabriel Sandler and Tyler Hoss** To ensure the standardization of the risk management process and MR&C development for line-item capital projects, the PA&E (with support from the Office of Infrastructure) developed a memo which integrates and clarifies NNSA guidance for risk management and MR&C estimate development. This presentation covers the MR&C memo and how to use quantitative risk and uncertainty analysis as a key input into the calculation. Non-presenting co-authors are Abby Schendt and Raymond Vera, NNSA CEPE.
5:00 PM		**END OF DAY 2**

LOCATION: BUILDING 822/ROOM 109

START	END	DAY 2 - BUILDING 822/ROOM 109
8:30 AM	9:00 AM	**Check In/Breakfast**
9:00 AM	9:05 AM	**Welcome and Opening Remarks – Cash Fitzpatrick**
9:05 AM	10:05 AM	**Keynote Speaker — Daryl Hauck or Charley Hunt**
10:10 AM	10:40 AM	**NNSA Laboratory Funding Visualization – A.J. Fontana** This presentation introduces a dashboard application allowing interactive visualization of DOE Presidential Budget Request data and includes discussion of the insights obtained from such data.
10:40 AM	**10:55 AM**	**NETWORKING BREAK**
10:55 AM	11:25 am	**Staffing Analysis to Justify Facility Sizing and Cost – Lilliane Habib and Christopher Russell** At Los Alamos National Laboratory, the Strategic Planning and Analysis Office in Weapons Production has been modeling various facilities utilizing current data and out-year projections to feed the models and provide accurate usage estimates. This presentation focuses on efforts to justify facility sizing for entry control facilities and vehicle access points for secure areas at LANL.
11:30 AM	12:00 PM	**Stretching Purchasing Power through Improved Escalation Methods – Matt Siiro and Amanda Schwark** NNSA chartered the Programmatic Recapitalization Working Group to track mission-critical equipment directly supporting weapons activities across the NSE. PRWG's approach can be leveraged for other instances where one broad escalation index is used to predict costs for many significantly differing data elements.
12:00 PM	**1:00 PM**	**LUNCH**
1:00 PM	2:00 PM	**Programmatic Equipment Cost Game – Amanda Schwark, Matt Siiro, Shar Rayhan and Carson Lo** The Programmatic Recapitalization Working Group (PRWG), chartered by NNSA to track mission-critical equipment directly supporting weapons activities across the NSE, leverages Microsoft's Power BI tool to maintain a database of equipment. This break-out activity pairs 5-10 individuals with a member of the PRWG team to develop an equipment estimate for a hypothetical new facility utilizing PRWGs dashboard tool.
2:05 PM	3:05 PM	**NNSA's Business Systems Integration – Gary Silko** This presentation provides an overview of NNSA's Office of Business System Integration's efforts to integrate disparate financial systems, describes the underlying data environment infrastructure, and demonstrates the various data visualization and business intelligence capabilities made possible through quality data management practices to produce financial integration data.
3:05 PM	**3:35 PM**	**NETWORKING BREAK**
3:40 PM	4:25 PM	**Early-Stage Cost Growth Methodology Development – Gabriel Sandler and Ali Housh** Capital acquisition projects at NNSA have been experiencing significant early-stage cost estimate growth, driven in part by early optimism and missed scope. NNSA's PA&E has been developing new cost estimating methodologies to account for potential scope changes and improve NNSA's ability to capture uncertainty at early-stages.
4:30 PM	5:00 PM	**Introduction to GAO's Agile Assessment Guide and its Application to Project Controls – Juaná S. Collymore** GAO developed the Agile Assessment Guide to aid federal agencies, departments, and auditors in assessing an organization's readiness to adopt Agile method as well as enable assessment of an agency's use of Agile methods. This presentation will provide an overview of the Guide's contents and a brief look at the applicability of program control best practices for programs using Agile development.
5:00 PM		**END OF DAY 2**

SCHEDULE DAY 3

LOCATION: SCHIFF AUDITORIUM

START	END	DAY 3 - STEVE SCHIFF AUDITORIUM
8:30 AM	9:00 AM	**Check In/Breakfast**
9:00 AM	9:35 AM	**Welcome and Opening Remarks – SCURA-Thon Results**
9:40 AM	10:40 AM	**AFNWC Cost Risk and Uncertainty - Bill Bowley** This presentation discusses training and best practices on Cost Risk and Uncertainty utilized at the Air Force Nuclear Weapons Center. Included will be an introduction to risk and uncertainty, sources of uncertainty, capturing the different types of uncertainty, common distributions, modeling best practices, correlation, and using results to support the program.
10:45 AM	11:30 AM	**Standardizing the Risk Management Process and Management Reserve and Contingency Development for Line-Item Capital Asset Acquisitions – Gabriel Sandler and Lorrie Blanchard Tietze** To ensure the standardization of the risk management process and MR&C development for line-item capital projects, the PA&E (with support from the Office of Infrastructure) developed a memo which integrates and clarifies NNSA guidance for risk management and MR&C estimate development. This presentation covers the MR&C memo and how to use quantitative risk and uncertainty analysis as a key input into the calculation.
11:30 AM	**11:45 AM**	**WRAP-UP**

11:45 AM **END OF DAY 3 - LUNCH/NETWORKING**

LOCATION: BUILDING 822/ROOM 109

START	END	DAY 3 - BUILDING 822/ROOM 109
8:30 AM	9:00 AM	**Check In/Breakfast**
9:00 AM	9:35 AM	**Welcome and Opening Remarks – SCURA-Thon Results**
9:40 AM	10:40 AM	**Conceptual Cost Estimating from Concept to Completion - Philip D. Larson** This presentation focuses on vertical construction/buildings and describes how certain CERs can be effective to accurately quantify the scope of work and help to clearly document assumptions. These assumptions can then be refined quickly and easily and can even support "what if" scenarios.
10:45 AM	11:30 AM	**Precisely Inaccurate — It's Not Always About "Hard" Skills – Steve Blake** This presentation covers recommendations resulting from a recent KCNSC cost estimate review of capital infrastructure projects, identification of needed "soft" estimating skills, and useful lessons learned for future projects. This discussion considers how team building, effective communication, and critical thinking can improve cost estimate development and approval processes.
11:30 AM	**11:45 AM**	**WRAP-UP**

11:45 AM **END OF DAY 3 - LUNCH/NETWORKING**

2024 SCUR-A-THON WORKSHOP

The Office of Stockpile Modernization Support (NA-MB-923) is holding a SCUR-A-Thon Workshop for NNSA Labs, Plants, Sites, and Federal Program Offices interested in improving their Schedule Cost Uncertainty and Risk Assessments (SCURAs). **The SCUR-A-Thon Workshop will be held from 2:00-4:00PM on July 23rd, 2024, at the John A. Gordon Albuquerque NNSA Complex, Room 1-506** during the same week of CECOP.

The purpose is to share knowledge and improve skills for those developing SCURA submissions developed by the Labs, Plants, and Sites. Pre-selected SCUR-A-Thon participants will work individually or in small teams to complete analyses, using standard data provided in advance by SCUR-A-Thon facilitators, on their own and will submit their work to SCUR-A-Thon Facilitators before the workshop. During the workshop, participants will discuss results, challenges encountered during analysis, lessons learned, and identify recommended improvements and potential follow-on activities. Results of the SCUR-A-Thon will be shared on the last morning of the CECOP Symposium.

If you have any security-related questions, concerns, or incidents to report to Sandia, please reach out to the Security Connection Hotline at (505) 845-1321.

PRESENTERS

JAMES ARROW
ALDWP-SMO Project
Program Director for Risk Management
Los Alamos National Laboratory

James is a Project Management Professional and Chartered Quantity Surveyor with over 25 years' experience. He has a broad range of Industrial/Commercial Engineering, Procurement, and Construction experience working with Fortune 500 contractors and Owner organizations across market sectors including oil and gas, aerospace, mining, power generation, government operations, pharma and IT Program Management. James has led the development of Risk Management capability improvement plans, the deployment of state-of-the-art risk analysis solutions including the development of network-enabled asset tracking platforms designed to enhance construction productivity planning and control on large capital projects. Presenting – **21st Century Enablers for Improving Cost Prediction Accuracy.**

WILLIAM BANKS
Cost Estimating Branch Chief
The Office of Cost Estimating and Program Evaluation
National Nuclear Security Administration

William supports the development of independent cost estimates on major NNSA and DOE infrastructure programs. During his 23-year federal career, he has also worked at NASA's Langley Research Center, the Naval Surface Warfare Center Dahlgren Division, Naval Sea Systems Command headquarters, and the Office of Secretary of Defense Cost Analysis and Program Evaluation division. William holds BS and MS degrees in Mechanical Engineering from Old Dominion University. He is also a certified Project Management Professional and holds a Level III certification in Systems Planning, Research Development and Engineering as well as a Level III certification in Cost Estimating from the Defense Acquisition University. Presenting with Cameron Webster – **An Econometric Approach to Construction Project Cost Modeling**

STEVE BLAKE
Lead Cost Analyst
Kansas City National Security Campus

Steve's current assignments include cost estimate research, analysis, policy and training support for Weapon and Capital Acquisition Programs at KCNSC. Prior to his current position, Steve provided program cost and schedule support at Northrop Grumman Propulsion Systems. He holds a Master of Public Administration degree from Georgia State University and a Bachelor of Economics degree from Brigham Young University-Idaho. Presenting – **Precisely Inaccurate: It's Not Always About "Hard" Skills**

BILL BOWLEY
Technical Director
Cost and Economics Division
Air Force Nuclear Weapons Center

Bill provides direction, oversight, research, and training to Cost Analysis workforce across the Air Force Nuclear Weapons Center. He also serves as a Cost and Acquisition Subject Matter Expert for leadership and Financial Management personnel. Bill has previously worked at Hanscom Air Force Base in Massachusetts from 2008 to 2022 as Technical Advisor, AFLCMC Cost and Economics; Cost/EVM Lead, 3DELRR Program Office; and Cost Analyst, JSTARS Program Office. Bill holds a BA degree in Mathematics from Rhode Island College, Providence, RI and a Master of Cost Estimating and Analysis from the Naval Postgraduate School, Monterey, CA. Presenting – **Air Force Nuclear Weapons Center Cost Risk and Uncertainty**

MARISSA CHRISTMAN
Program Manager
Office of Strategy and Planning
Los Alamos National Laboratory

Marissa is a member of the Weapons Production Strategy and Planning group at LANL. She focuses on production portfolio risk management capability as well as equipment maintenance and lifecycle planning efforts. Marissa has worked in diverse programmatic areas at LANL that include operations activities with waste management, water monitoring, and various support operations, as well as highly technical projects in R&D weapons physics, manufacturing science, and nuclear and non-nuclear production activities. She previously worked in industry where she gained experience in global manufacturing, Six Sigma, and Lean Methodology. Marissa holds a Master's degree in Mechanical Engineering. Presenting – **Estimating Critical Equipment Repair and Replacement Needs to Ensure High Performance for Weapons Production**

JUANÁ S. COLLYMORE
Sr. Operations Research Analyst
Government Accountability Office

Juaná is a senior schedule and cost analyst on the Science, Technology Assessments, and Analytics team at the GAO. She is responsible for evaluating cost processes and performing schedule analyses generated by programs across a myriad of federal agencies. Juaná has over 19 years' experience in the fields of schedule estimating and technology auditing and holds certifications as a Project Management Professional, Planning and Scheduling Professional, and Cost Estimating Analyst. Presenting – **NNSA's History of Program Management Challenges** and **Introduction to GAO's Agile Assessment Guide and its Application to Project Controls**

PRESENTERS

THOMAS COOK
Analyst
Office of Management and Budget
Office of Programming, Analysis, and 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. Presenting – **Mega Projects Around the World**

CASH FITZPATRICK
Director
Office of Programming, Analysis, and 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 the Office of Programming, Analysis, and Evaluation for NNSA. He is also the 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. Cash holds BS and MS degrees in Environmental Engineering from Cal Poly and Massachusetts Institute of Technology, respectively. Presenting – **CEAG Overview and Key Initiatives**

A.J. FONTANA
Nuclear Enterprise Systems Analyst
Lawrence Livermore National Laboratory

As a Systems Analyst at LLNL, A.J. works within the Nuclear Enterprise Working Group. Prior to starting at LLNL, he had over five years' experience with enterprise data engineering and data governance at organizations such as Gallo Winery, Bloomberg, and Neuberger Berman. A.J. holds a MS degree in Applied Economics from the University of California Santa Cruz. Presenting – **NNSA Laboratory Funding Visualization**

LILLIANE HABIB
R&D Engineer
Strategic Planning and Analysis Office for Weapons Production
Los Alamos National Laboratory

Lilliane has been a Los Alamos National Laboratory R&D Engineer since 2021. At LANL, she has worked on many projects, including discrete-event models and workforce analyses for different Associate Laboratory Directors within the lab. Lilliane has an undergraduate degree in Industrial Engineering from the University of Houston and is pursuing a Master's degree in Industrial Engineering from New Mexico State University. Presenting with Christopher Russell – **Justifying Facility Sizing and Cost with Discrete Event Modeling** as well as **Staffing Analysis to Justify Facility Sizing and Cost**

MARC HAYHURST
Senior Project Leader
Strategic Assessment, Studies, and Project Directorate
Civil Systems Group
The Aerospace Corporation

Marc has over 17 years of experience performing independent cost estimates and developing cost models for different NASA missions and organizations. He is currently the lead developer of the CERs for the Mission Operations Cost Estimation Tool (MOCET) model developed by The Aerospace Corporation in partnership with NASA. He has a Bachelor's degree in Political Science from the University of California San Diego, a Master's degree in Library and Information Science from San Jose State University and a MS degree in Computer Science from California State University Long Beach. Presenting with Uzair Irfan – **Cost Reasonableness Review: A Tailorable Approach for Assessing Unique Projects**

SCOTT HOLSWADE
Former Deputy Chief Engineer for Nuclear Weapons and
Former Director of Advanced Systems and Transformation
Sandia National Laboratories

Scott supported Sandia for more than 27 years across several divisions including serving as Director of Weapons Stockpile Management and Director of the Space Mission program. He started as a nuclear weapons staff member and held management positions early in his tenure at the Labs. Prior to Sandia, Scott served in the United States Air Force as an officer at the Air Force Technical Applications Center as well as the Air Force Weapons Laboratory, now part of the Air Force Research Laboratory. He received his BS degree in Physics from the U.S. Air Force Academy and his MS degree in Electrical Engineering from the University of New Mexico. Scott is co-author of two books, holds three patents, and has published numerous journal articles. Presenting – **The Coupled Relationship Between Cost Estimating, Financial Performance, and Customer Trust**

PRESENTERS

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

Tyler has supported the National Nuclear Security Administration Office of Programming, Analysis, and Evaluation for over three years. He is a Penn State graduate with a Bachelor's degree in Finance and Economics. He enjoys rooting for Philadelphia sports teams, playing golf and has recently taken up snowboarding as a new hobby. Presenting with Gabriel Sandler – **Evaluating the Impact of Tailored Correlation Factors in NNSA Capital Acquisition Projects**

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

Ali began working with NNSA as a Graduate Fellow in 2021-2022, where she helped in the development and launch of the office's first annual Datathon event. Since then, she has 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 for a billion-dollar project, and continues to manage the annual Datathon. She earned a BS degree in Biology and Chemistry from Heidelberg University in Tiffin, OH and received her PhD in radiochemistry at the University of Missouri - Columbia. Presenting with Gabriel Sandler – **Early-Stage Cost Growth Modeling**

UZAIR IRFAN
Senior Project Engineer
Strategic Assessment, Studies, and Project Directorate
Civil Systems Group
The Aerospace Corporation

Uzair has over 14 years of experience with a deep and diverse technical background including nuclear power plant operations, component engineering, program management, and project management. He has experience in multiple industries including Naval Nuclear, Commercial Nuclear, Facilities Construction, and Space and Science. Uzair has led multiple large scale assessments including programmatic assessments, root cause analysis, latent issues reviews, and facility condition assessments. He holds a BS degree in Mechanical Engineering from Central Michigan University. Presenting with Mark Hayhurst – **Cost Reasonableness Review: A Tailorable Approach for Assessing Unique Projects**

KENON KAWASE
Mechanical Engineer
Kansas City National Security Campus

Kenon is currently acting as site point-of-contact for several demonstrator projects in KCNSC's Advanced and Exploratory Systems Engineering department. Projects include the Joint Technology Demonstrator, Advanced Exploratory Concept, Agile Processes & Technologies and Preparatory Exercise 1; coordinating Management Operating System development for KCNSC's Research, Development, Test & Engineering space; supporting future system collaborations with design agencies' partners, as well as researching and developing content for papers for the KCNSC Systems Analysis team. He previously worked as a Systems Engineer on the Mk21 Fuze, leading multiple Major Component teams through development past First Production Unit. Presenting with Skylar McElwain – **Design Reuse and Its Impact Within KCNSC NW Programs**

PHILIP D. LARSON
Estimating Systems, Tools, and Integration Lead
Los Alamos National Laboratory

Phil has over 40 years of experience in the architectural engineering and construction field and related software industry. He is currently focusing on optimizing with WinEst for the estimating team at LANL. Phil previously worked for WinEstimator, Inc. in the mid-1990s as Sr. Vice President and also worked as capital projects estimator for the Sea-Tac airport on over $1.0B worth of projects. He is Past President and a Fellow of AACE International, serving as co-chair of AACE's BIM Committee, as well as Past President of American Society of Professional Estimators (ASPE) Chapter 45, and West Governor and 2nd Vice President of ASPE. Presenting – **Conceptual Cost Estimating from Concept to Completion**

HANNAH HOAG LEE
Senior Associate
Technomics, Inc. Contractor to
National Nuclear Security Administration

Hannah develops models and tools for NNSA's Office of Management and Budget and has completed Technomics' internal Cost Estimating Training program. She comes from a multidisciplinary research background and as a researcher has gained extensive experience in project design and project management, statistics, and data visualization. Hannah has published her research in high-impact journals and has presented findings at multiple conferences and events. She holds degrees in both Biochemistry and Pharmaceutical Science. Presenting – **The Nuclear Option: Avoiding Critical Delays with Advanced Constraints Analysis**

PRESENTERS

CARSON LO
Senior Associate
Technomics, Inc. Contractor to
National Nuclear Security Administration

At Technomics, Carson currently supports NNSA's Management and Budget's Programmatic Recapitalization Working Group through data analysis, visualization, and validation. Recently, he has started supporting Stockpile Modernization Support's Earned Value Management Pilot, analyzing and visualizing W88 and W80-4 EVM data. Carson holds a BS degree in Aerospace Engineering and an AS degree in Business Management. Presenting with Amanda Schwark, Matt Siiro and Shar Rayhan – **Programmatic Equipment Cost Game**

DAVID T. MASCIARELLI
Engineer
Office of Management and Budget – Stockpile Modernization Support
National Nuclear Security Administration

David primarily works on cost and schedule estimating for weapons systems in the Office of Management and Budget for Stockpile Modernization Support. He previously worked in manufacturing, predominately in the steel manufacturing and steel forming industries. David is a graduate of Northwestern University with an MBA in Finance and Entrepreneurship and MSE in Manufacturing Engineering. He also holds a BS degree in Mathematics and a BSE in Material Science and Engineering from The University of Michigan. Presenting **– Weapons System Estimating Guidance**

SKYLAR MCELWAIN
Mechanical Engineer
Kansas City National Security Campus

Skylar is a mechanical engineer working within KCNSC's Advanced and Exploratory Systems Engineering organization. Current responsibilities include future system modeling for KCNSC's long-range forecasting tool, co-leading the KCNSC Research and Sounding Rockets (RASR) demonstrator project, supporting future system collaborations with design agencies partners, and executing system analysis study scope. Skylar's previous experience includes participating in SNL's Weapon Intern Program and working as a product engineer on the Mk21 Arming and Fuzing Assembly. Presenting with Kenon Kawase – **Design Reuse and Its Impact Within KCNSC NW Programs**

DAVID MCLAIN
Science and Engineering Project Manager
Sandia National Laboratories

David supports the Science and Engineering Product Life Cycle Management Execution and Project Management at Sandia. He served 34 years in the United States Air Force and brings a wealth of knowledge and experience in program management, organizational management, and nuclear weapons. While at Sandia, David has been dedicated to cost estimation improvement initiatives, capitalizing on studies and reports from previous efforts and integrating initiatives into policy and guidance improvements, establishing a series of cost estimation training workshops. He strives to align Sandia's cost estimating processes with the Government Accountability Office Cost Estimating and Assessment Guide and building the foundation for a Cost Estimating Center of Excellence within Sandia. Presenting – **Sandia's Cost Estimation Improvement Journey**

ANNIE MEENAN
Analyst
Technomics, Inc. Contractor to
National Nuclear Security Administration

Annie received her BS degree in Industrial & Systems Engineering from Virginia Tech and Lean Six Sigma Green Belt certification through prior experience in lean manufacturing, process improvement, and data visualization. She works in Arlington, VA working for Technomics, Inc. as a contractor for the NNSA and DOE. Annie will be presenting with Daniel Puentes, Patrick Shelton and Matt Siiro – **What you see is Watt you get: An NNSA Utility Cost Deep Dive**

CHRISTOPHER NESBIT
Strategic Program Planner
Sandia National Laboratories

Chris is a Licensed and Registered Architect with over 30 years of experience. He has focused on science, technology, and government building sectors over the last 17 years. Chris has been with Sandia National Laboratories as a Strategic Partnership Planner in the Facilities organization for the past 11 years. The Site Planning and Partnership department partners with Program and Line SMEs to evaluate the gaps between the program objectives and current state of health, propose strategic roadmaps of investments, and develop associated cost proposals for capability investment recommendations to NNSA, DOE, and other Federal sponsors. Presenting – **Capital Construction Cost Confidence Model – Deploying Graded Approach** as well as **Evaluating Project Cost of Construction to NA-90 PMP Requirements**

PRESENTERS

MICHAEL R. NOSBISCH
Director, Project Controls
Strategic Management Solutions, LLC
Small Business Team Member of TRIAD
Los Alamos National Laboratory

Michael has over 35 years of experience in project management/controls within both the government and private sectors. He has worked for several leading engineering, procurement, and construction firms in the industry. As a consultant since 2009, Michael has managed practices for leading project/program management firms. He is an adjunct professor at the University of Southern California and is also a Fellow at AACE International. Michael has been an active member of both NDIA's Integrated Program Management Division and the Energy Facility Contractors Group's Project Delivery Working Group. He serves as Past President for the Orange County Post of the Society of American Military Engineers. Presenting – **Challenges in Implementing GAO's Estimating Best Practices**

KAITLIN PEACH
Graduate Research Assistant
Institute for Public Policy Research and Analysis
University of Oklahoma

Kaitlin is a Political Science PhD candidate at the University of Oklahoma and Graduate Research Assistant at the Institute for Public Policy Research and Analysis (IPPRA). For the last two years, she has worked as part of an IPPRA team with Sandia National Laboratories on nuclear deterrence research. Kaitlyn's dissertation research focuses on public perceptions of the risks of nuclear war and how those perceptions shape how people value nuclear weapons and their policy preferences. She holds Bachelor's and Master's degrees in International and Area Studies with a concentration in Security Studies from the University of Oklahoma. Presenting – **Characterizing and Managing Disruptive Cascades**

DANIEL PUENTES
Physical Scientist
Office of Programming, Analysis, and Evaluation
National Nuclear Security Administration

Daniel joined the NNSA in 2023 after completing his PhD in Physics from Michigan State University, specializing in experimental nuclear physics. In June 2024, he moved into his current position as a physical scientist in the Office of Programming, Analysis, and Evaluation, where he uses modeling and simulation to support NNSA management and budget. Daniel also supports planning studies and analyses of alternatives for early acquisition of capital line-item projects. Presenting with Annie Meenan, Patrick Shelton, and Matt Siiro – **What you see is Watt you get: An NNSA Utility Cost Deep Dive**

SHAR RAYHAN
Analyst
Technomics, Inc. Contractor to
National Nuclear Security Administration

Shar supports NNSA's Office of High Explosives and Energetics and the Office of Programming, Analysis, and Evaluation with supply chain optimization, schedule risk modeling, capabilities health assessments, equipment procurement prioritization, and strategic planning. He has built multiple analytical tools and dashboards which are currently being used across the NNSA to make decisions informed by data. Shar graduated as the Student Marshall of his class from Pennsylvania State University with a BS degree in Supply Chain Information Systems and a minor in Economics. Presenting – **Risk Informed Scheduling for NNSA Explosives Production** and also presenting with Amanda Schwark, Matt Siiro and Carson Lo - **Programmatic Equipment Cost Game**

CHRISTOPHER RUSSELL
R&D Engineer/Engineering Process Modeling Team Lead
Strategic Planning and Analysis Office for Weapons Production
Los Alamos National Laboratory

Christopher has worked on multiple decision support projects that utilize his process modeling and data analytics skill sets. He received his PhD in Chemical Engineering in 2019 from Brigham Young University. Christopher's dissertation explored several applications of a novel cryogenic carbon capture process as well as the application of uncertainty quantification to traditional carbon capture process modeling. Presenting with Lilliane Habib – **Justifying Facility Sizing and Cost with Discrete Event Modeling** as well as **Staffing Analysis to Justify Facility Sizing and Cost**

GABRIEL SANDLER
Physical Scientist/Analyst
Office of Programming, Analysis, and Evaluation
National Nuclear Security Administration

Gabriel joined the NNSA's Office of Analysis and Evaluation in 2020 where he has been involved in developing and reviewing cost estimates and policy. He also has experience working at the NNSA's Office of Cost Estimating and Program Evaluation through the NNSA Graduate Fellowship Program. He holds a PhD, MS, and BS degrees in Nuclear Engineering from the University of Florida and has previously interned at Sandia National Laboratory and the National Academies of Science. Presenting with Ali Housh – **Early-Stage Cost Growth Methodology Development**, presenting with Tyler Hoss – **Evaluating the Impact of Tailored Correlation Factors in NNSA Capital Acquisition Projects** and also presenting with Lorrie Blanchard Tietze – **Standardizing the Risk Management Process and Management Reserve and Contingency Development for Line-Item Capital Asset Acquisitions**

PRESENTERS

AMANDA SCHWARK
Analyst
Technomics, Inc. Contractor to
National Nuclear Security Administration

As a Senior Associate at Technomics, Inc., Amanda currently supports the NNSA as the contractor lead for the Programmatic Recapitalization Working Group. She is an analyst supporting the Office of Programming, Analysis, and Evaluation in both planning studies and provides CEAG/CECOP support. Amanda also supports the DOE CFO for data visualization and portfolio analysis. She graduated from Penn State with a BS degree in both Finance and Economics. Presenting with Matt Sirro, Shar Rayhan and Carson Lo – **Programmatic Equipment Cost Game** and also presenting with Matt Siiro – **Stretching Purchasing Power through Improved Escalation Methods**

BRANDON SCHWARK
Lead Analyst
Technomics, Inc. Contractor to
National Nuclear Security Administration

Before becoming a contractor developing modeling & analysis tools for NNSA, Brandon worked at a wealth management firm performing portfolio optimization for equity portfolios. This unique background has enabled him to apply portfolio analytics concepts typically reserved for finance to different types of portfolios, such as those in government capability. Brandon holds a BS degree in Economics from Penn State University and a MS degree in Applied Economics from the University of Maryland. Presenting **– Portfolio Analysis Methods for Long-Range NNSA Planning**

PATRICK SHELTON
Senior Associate
Technomics, Inc. Contractor to
National Nuclear Security Administration

Patrick is a Senior Associate with four years of experience conducting budget and life cycle cost estimates for the NNSA under the Management and Budget's Office of Programming, Analysis, and Evaluation. He has also led bleeding edge machine learning methods to standardize NNSA work breakdown structures, which was presented at the ICEAA conference and CECOP symposium in 2023. He holds BS degrees in Marketing and Political Science from Penn State University's Schreyer Honors College. Presenting with Matt Siiro, Annie Meenan and Daniel Puentes – **What you see is Watt you get: An NNSA Utility Cost Deep Dive**

MATT SIIRO
Analyst
Technomics, Inc. Contractor to
National Nuclear Security Administration

Matt is a Senior Associate at Technomics, Inc. currently working for the NNSA Office of Management and Budget providing data visualization and modeling support. He graduated with a BS degree in Economics from the University of Wisconsin-Madison. Presenting with Amanda Schwark **– Stretching Purchasing Power through Improved Escalation Methods** and also presenting with Patrick Shelton, Annie Meenan and Daniel Puentes – **What you see is Watt you get: An NNSA Utility Cost Deep Dive** as well as with Amanda Schwark, Shar Rayhan and Carson Lo on **Programmatic Equipment Cost Game**

GARY SILKO
Analyst
Technomics, Inc. Contractor to
National Nuclear Security Administration

Gary is a Certified Managerial Accountant and Project Management Professional with 14 years of Financial Services experience in the United States Federal Government. Originally an Auditor with the Department of Defense Office of Inspector General, Gary was a Public Services consultant at Deloitte from 2013 to 2021, and is now a Service Area Manager with Technomics, Inc. Gary now serves as the Project Lead for the support contract providing WBS management, data integration, business intelligence, and data visualization services to the NNSA's Management and Budget Office of Business Systems Integration. Presenting **– NNSA's Business Systems Integration**

DAVID TATE
Senior Defense Analyst
Institute for Defense Analyses

David joined the research staff of the Institute for Defense Analyses in 2000. He has led acquisition cost, schedule, and risk reviews of multiple high-profile national security programs, and has contributed to numerous Analyses of Alternatives and congressionally-mandated program reviews across multiple agencies. David has authored and co-authored dozens of technical reports in the areas of decision analysis, portfolio selection, analysis of alternatives, acquisition of AI and autonomous systems, cost and schedule risk analysis, and software-intensive systems. He is a member of the GAO Expert Panels for cost analysis, schedule analysis, analysis of alternatives, and technology readiness assessment. Presenting – **Selected Findings from the IDA Review of NNSA Capital Project Cost Estimation**

PRESENTERS

LORRIE BLANCHARD TIETZE
Consultant
Interface Consulting, LLC Contractor to
National Nuclear Security Administration

For over 30 years, Lorrie has assisted clients in achieving and sustaining, fundamental change and improved results. She has provided training and consulting to global Fortune 30 companies, Mid-Tier Companies, Government, and Not-For-Profit Organizations. Lorrie has two degrees in nuclear engineering and has held operational, engineering, and project implementation positions with a multi-national Fortune 30 company. Presenting with Gabriel Sandler – **Standardizing the Risk Management Process and Management Reserve and Contingency Development for Line-Item Capital Asset Acquisitions**

ROBERT WEBB
Risk Management Program Director
Associate Laboratory Directorate Weapons Production
Los Alamos National Laboratory

Robert is a retired USAF veteran currently supporting the US nuclear weapons mission at LANL. He has over 30 years of program, project, and risk management experience working domestically and internationally for private and public companies as well as the DOD, DOE, and MOD/Royal Navy. Robert is an Association for Project Management (APM) Chartered Project Professional, PMI Project Management Professional, and Risk Management Professional as well a previous member of the British Standards Institution Risk Management Committee and the APM Risk Special Interest Group Committee. Robert holds a BS degree in Mechanical Engineering, an MS in Logistics Management, and is currently starting dissertation work on Enterprise Risk Management. Presenting – **Risk 101 — Basic Risk Management Principles**

CAMERON WEBSTER
Senior Associate
Technomics, Inc. Contractor to
National Nuclear Security Administration

Cameron supports the NNSA in cost estimating and data-driven decisions and recommendations for the Office of Cost Estimating and Program Evaluation. He previously worked at ITA International as a cost-benefit analyst and WorkStep, a Portland-based tech startup, where he performed B2B sales. Cameron is a graduate of George Washington University with a Master's degree in applied economics, and University of Portland with a Bachelor's degree in economics and mathematics. Presenting with William Banks – **An Econometric Approach to Construction Project Cost Modeling**

ACRONYM LIST

3DELRR Three-Dimensional Expeditionary Long-Range Radar
AACEI Association for the Advancement of Cost Engineering International
AEC Architectural Engineering and Construction
AESA Advanced Engineering Simulations & Analysis
AFLCMC Air Force Life Cycle Management Center
AFNWC/FZC Air Force Nuclear Weapons Center Cost and Economic Analysis Division
AI Artificial Intelligence
ALDWP Associate Laboratory Directorate of Weapons Production (LANL)
APM Association for Project Management
APT Agile Processes and Technology
ASPE American Society of Professional Estimators
B2B Business to Business
BIM Building Information Modeling
CCEA Certified Cost Estimator/Analyst
CEAG Cost Estimating Analysis Group
CECOP Cost Estimating Community of Practice
CEPE Cost Estimating and Program Evaluation
CER Cost Estimating Review
CD Critical Decision
CFO Chief Financial Officer
DASA-CE Deputy Assistant Secretary of the Army – Cost and Economics
DES Discrete Event Simulation
DOD Department of Defense
DOE Department of Energy
EECF East Entry Control Facility
EFCOG Energy Facility Contractors Group
EPC Engineering, Procurement and Construction
EVA East Vehicle Access
EVM Earned Value Management
FIMS Facilities Information Management System
FM Financial Management
FPO Federal Program Office
FTE Full Time Equivalent
FYNSP Future-Years Nuclear Security Program
GAO Government Accountability Office
HAZCAT Hazard Category
ICEAA International Cost Estimating and Analysis Association
IHE Insensitive High Explosives
IPMD Integrated Program Management Division
IPPRA Institute for Public Policy Research and Analysis
IT Information Technology
JSTARS Joint Surveillance Target Attack Radar System
JTD Joint Technology Demonstrator
KCNSC Kansas City National Security Campus
LANL Los Alamos National Laboratory
LLC Limited Liability Corporation
LCCE Lifecycle Cost Estimate
LLNL Lawrence Livermore National Laboratory
M&O Management and Operating
MB-1.4 NNSA Office of Business Systems Integration
MC Major Component
MOCET Mission Operations Cost Estimation Tool
MOD Ministry of Defence
MR&C Management Reserve and Contingency
NA-90 NNSA Infrastructure Office
NA-193.3 NNSA Office of High Explosives and Energetic
NA-MB-92 NNSA Office of Programming, Analysis, and Evaluation
NA-MB-923 NNSA Office of Management and Budget for Stockpile Modernization Support
NASA National Aeronautics and Space Administration
NDIA National Defense Industrial Association
NGFP NNSA Graduate Fellowship Program
NNSA National Nuclear Security Administration
NSE Nuclear Security Enterprise
O&S Operating and Support
PA&E Programming, Analysis and Evaluation
PBR Presidential Budget Request
PDWG Project Delivery Working Group
PMI Project Management Institute
PMP Project Management Professional/Project Management Plan
PREPEX Preparatory Exercise 1
PRT Product Realization Team
PRWG Programmatic Recapitalization Working Group
PT&C Project Time and Cost
PSP Planning and Scheduling Professional
QRA Quantitative Risk Analysis
R&D Research and Development
RASR Research and Sounding Rockets
SAME Society of American Military Engineers
SME Subject Matter Expert
SNL Sandia National Laboratories
SPA Strategic Planning and Analysis
SURA Schedule Uncertainty and Risk Analysis
TCM Total Cost Management
URS United Research Services
USAF United States Air Force
WBS Work Breakdown Structure
WECF West Entry Control Facility
WVA West Vehicle Access

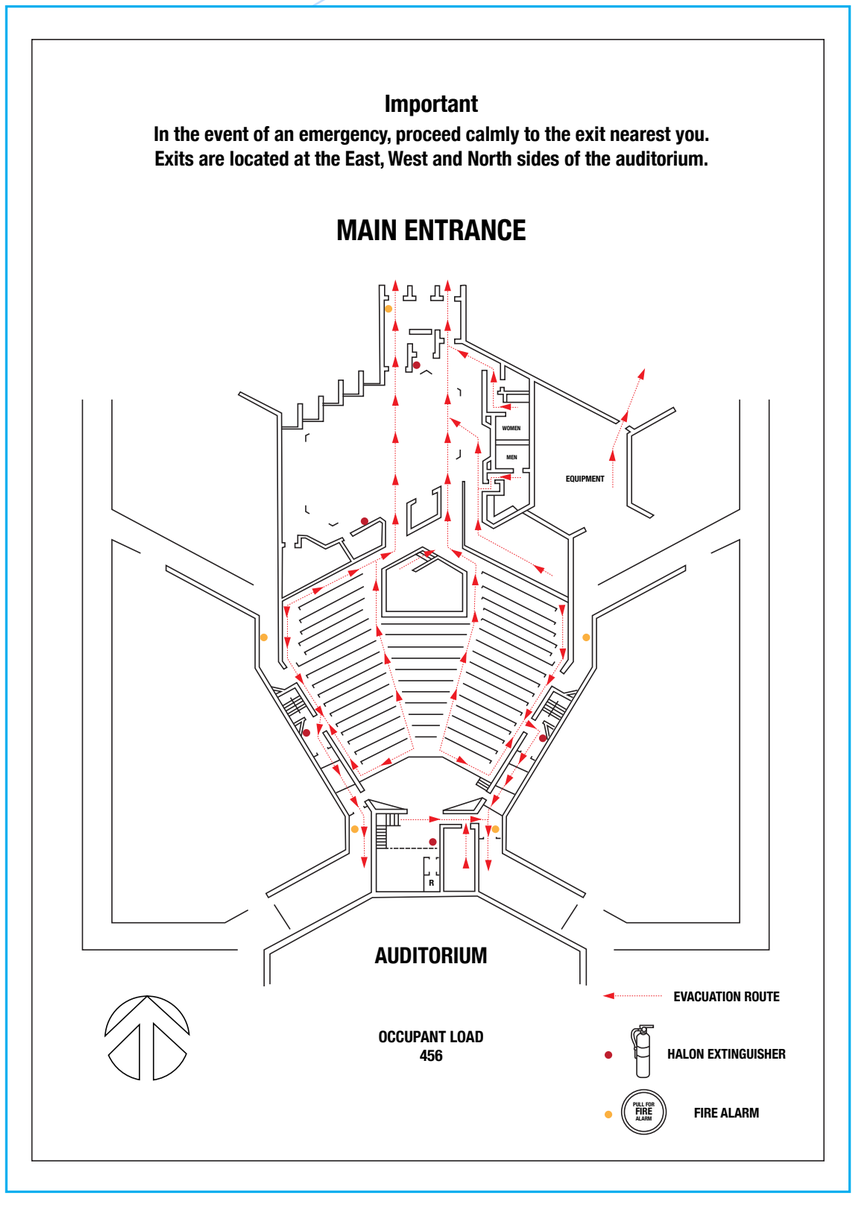
ANNOUNCEMENTS

CECOP EVENING SOCIAL EVENT
Tuesday, JULY 23rd | 5:30 PM
National Museum of Nuclear Science & History
No-host Social | Array of Food Trucks

2024 CECOP SYMPOSIUM SURVEY
Please scan this QR Code to fill out your survey of this year's event. Your input is valuable!
Help the CECOP Planning Committee prepare for next year's CECOP Symposium.

2025 CECOP SYMPOSIUM
The 9th Annual CECOP Symposium will be hosted by Los Alamos National Laboratory in Los Alamos, New Mexico in August, 2025.

SCHIFF AUDITORIUM - EMERGENCY EXIT MAP



For Protective Force, Fire, Emergency Response Team (ERT), and/or Ambulance call:

- 911 from any onsite SNL landline
- (505)-844-0911 from a cell phone
- Follow the direction provided by the emergency notification system, Building Emergency Team, and emergency response personnel during emergencies and drills.

When evacuating:

- Immediately exit the building in an orderly manner and do not re-enter the building.
- Evacuate/move away from incident hazards.
- Proceed to the designated assembly area(s).
- Help those needing assistance.
- Ensure Assembly area is safe for occupancy.
- Remain at the Assembly Area until released or instructed to move by the Building Emergency Team or Emergency Responders.

Shelter-in-Place (SIP)

- Remain indoors within your current building.
- If outdoors, proceed to the closest building.
- Close windows and doors. Stay away from drafty windows and doors.
- SIP may require adjustments to heating, ventilation, and air conditioning systems.
- SIP actions may be used during various incident types, such as: hazardous material releases, inclement weather events, bomb threats, or security related threats.
- Isolate potentially contaminated persons from the rest of the building population.

Lockdown

- Actions you take to secure (as best as possible) a facility, building, or room to deny entry/exit to protect yourself and others from harm or discovery by an active assailant that is not in the immediate vicinity.
- Lockdown is used in response to an active assailant in the general area and directs personnel to secure themselves within their current location or to move into a building if outdoors. If possible, exterior doors should be secured to prevent unauthorized entry.
- Regardless of the success or failure of securing the exterior doors, the Member of the Workforce should quickly move to an interior room and secure it to the best of his or her abilities (lock and/or barricade).
- Lockdown is used in response to an active assailant in the general area.
- Secure yourself in a building and/or room to protect yourself and others from harm or discovery by an active assailant.
- If outside, seek protection inside a building and lockdown.
- Once in a room, secure, lock, and barricade the door using all available means.
- Remain in place and stay quiet until released by emergency response personnel.

NOTES

NOTES

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Sandia National Laboratories

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U.S. DEPARTMENT OF ENERGY

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