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JOINT ENGINEER

TRAINING CONFERENCE



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#SAMEJETC20

Cost Engineering Forum



Moderator: **Lisa Cooley**, Director, Federal Solutions, Gordian

Speakers:

- **Michael McAndrew**, Deputy Assistant Secretary of Defense for Facilities Management, Office of the Assistant Secretary of Defense for Sustainment
- **Col. Miro Kurka**, P.E., PMP, F.SAME, USA (Ret.), Mead & Hunt, Inc., Procurement Advocacy Committee Chair, ACEC
- **Dr. Christine Altendorf**, P.E., PMP Chief of Engineering and Construction, U.S. Army Corps of Engineers
- **R. David Curfman**, P.E., Assistant Commander and Director, Public Works, Naval Facilities Engineering Command
- **Dave Andrews**, CCP, Vice President, Project Controls, MOCA Systems, Inc.

WELCOME to the COST ENGINEERING FORUM

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- You may send a private note to other attendees under the Chat tab / private. Please do not abuse this privilege!
- Submit a written question for the speaker at any time via the “Q&A” tab
 - Also review questions that have been submitted already by others – click “Upvote” to note that you’re also interested in hearing the answer to this question
- Session slides are housed in the “Handout” tab for downloading.
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MODERATOR



- **Founded a general contracting firm at the tender age of 26.**
- **Had the impeccable timing of launching a kitchen gut remodel two weeks before the stay-at-home orders were issued.**

Lisa Cooley, Vice-President, Federal Solutions, Gordian

SPEAKER



- I've traveled to more countries in this job than I did in my military career.
- I'm excited about the progress we're making in reforming DoD's MilCon process, policies, and procedures. But, there's still a long way to go.
- My hair isn't really that brown (anymore).

Michael McAndrew, Deputy Assistant Secretary of Defense for Facilities Management, Office of the Assistant Secretary of Defense for Sustainment

SPEAKER



- **Former USACE District Commander; working in AE industry for 10 years**
- **Once spent 2 minutes in Beirut, Lebanon**
- **Learned to love working from home during the pandemic**
- **In cost engineering for government projects risk is THE KEY ISSUE**

**Col. Miro Kurka, P.E., PMP, F.SAME, USA (Ret.), Mead & Hunt, Inc.,
Procurement Advocacy Committee Chair, ACEC**

COST ENGINEERING CEO ROUNDTABLE – NOV 2019

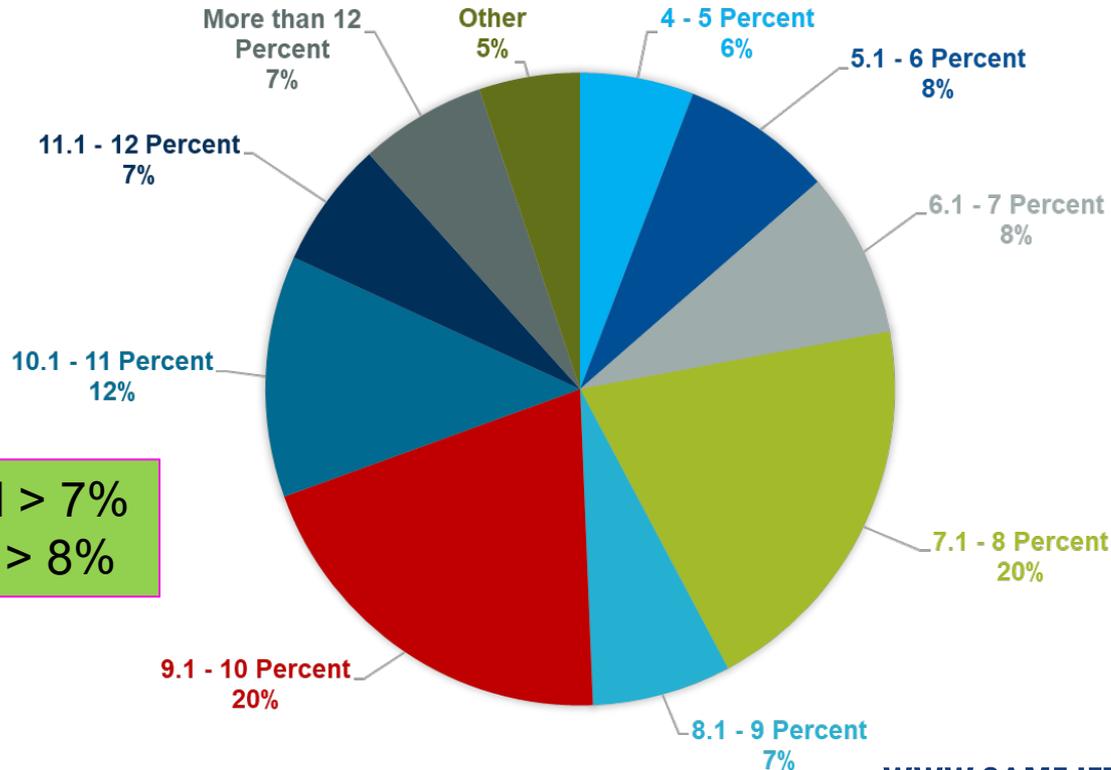
- Included Senior DoD Leaders and Industry (AE, Construction, Cost Engineering)
- Two Primary Challenges:
 - Better Estimates for New Projects
 - Keeping Estimates Updated
- Risk

SAME COST ENGINEERING WORKING GROUP

- Goal: Improve the quality / sufficiency of DoD cost estimates at all stages of a military construction project's lifecycle.
- Product Goals: All outputs from the CEWG are to:
 - ❑ Improve DoD's understanding of financial risk and project costs from the perspective of the AEC industry that will independently assess and price that risk and costs in their products and services to DoD.
 - ❑ Provide advice for improving DoD's process for developing cost estimates.
- Step One: Survey Industry to gather data on key questions

QUESTION 1

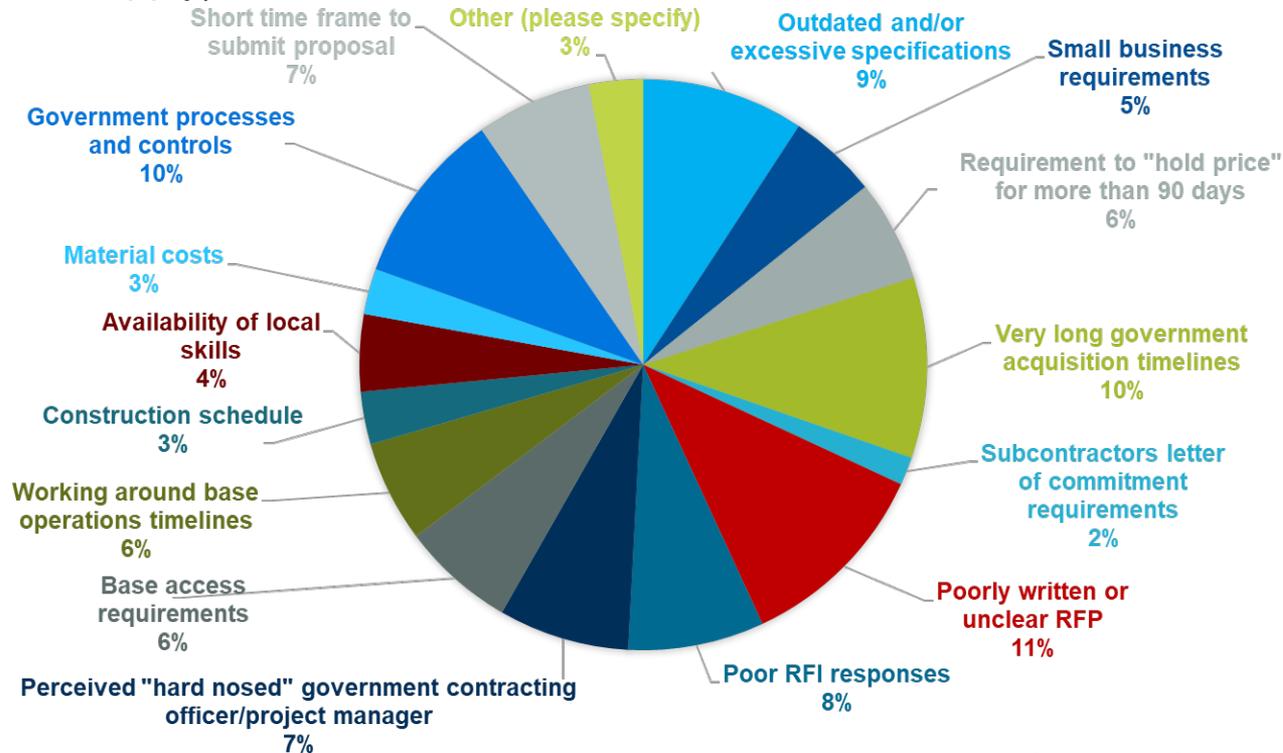
Based on the choices below, please select the closest actual cost incurred by industry design firms for designs within design-build contracts.



73 % Reported > 7%
53% Reported > 8%

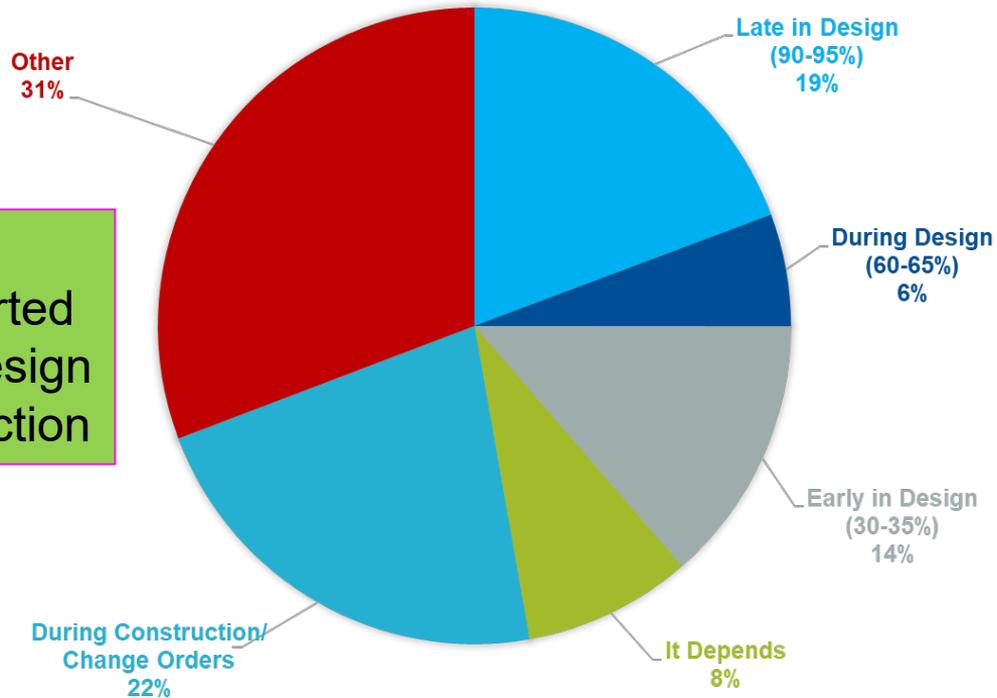
QUESTION 2

Identify sources of risk and perceived additional or unnecessary costs that the A/E/C industry believes it must account for in proposing on government work (select all that apply).



QUESTION 3

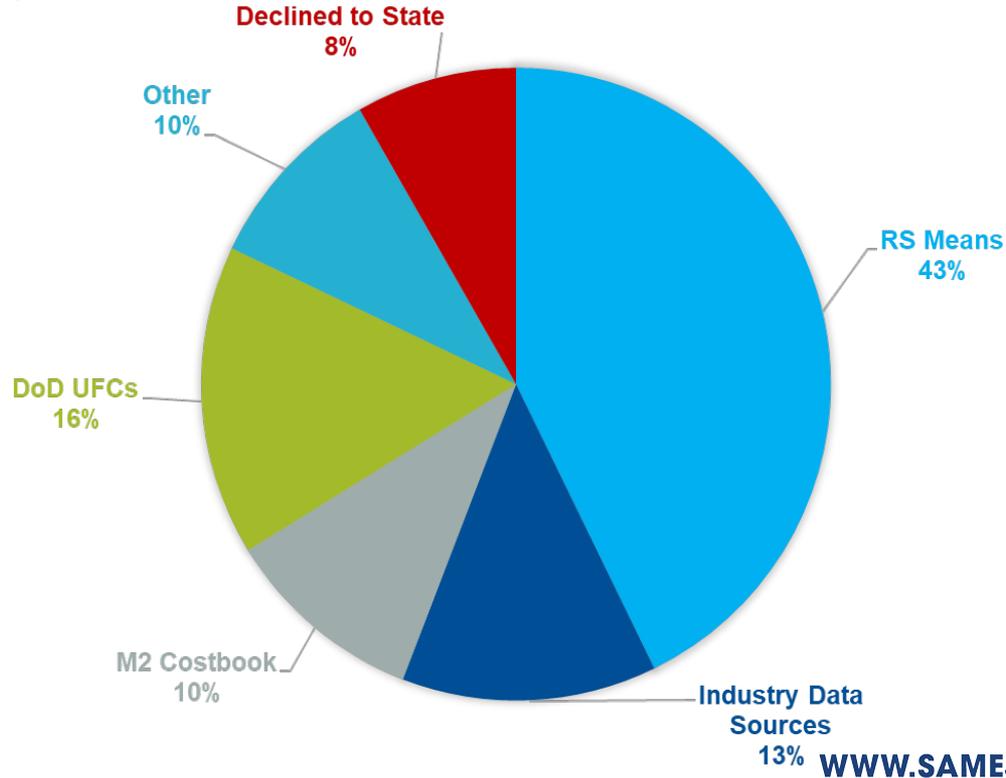
Identify when in the design and/or construction process costs versus scope trade-offs take place, and how those trade-offs are documented and approved by the government.



41 % of respondents reported changes late in design or during construction

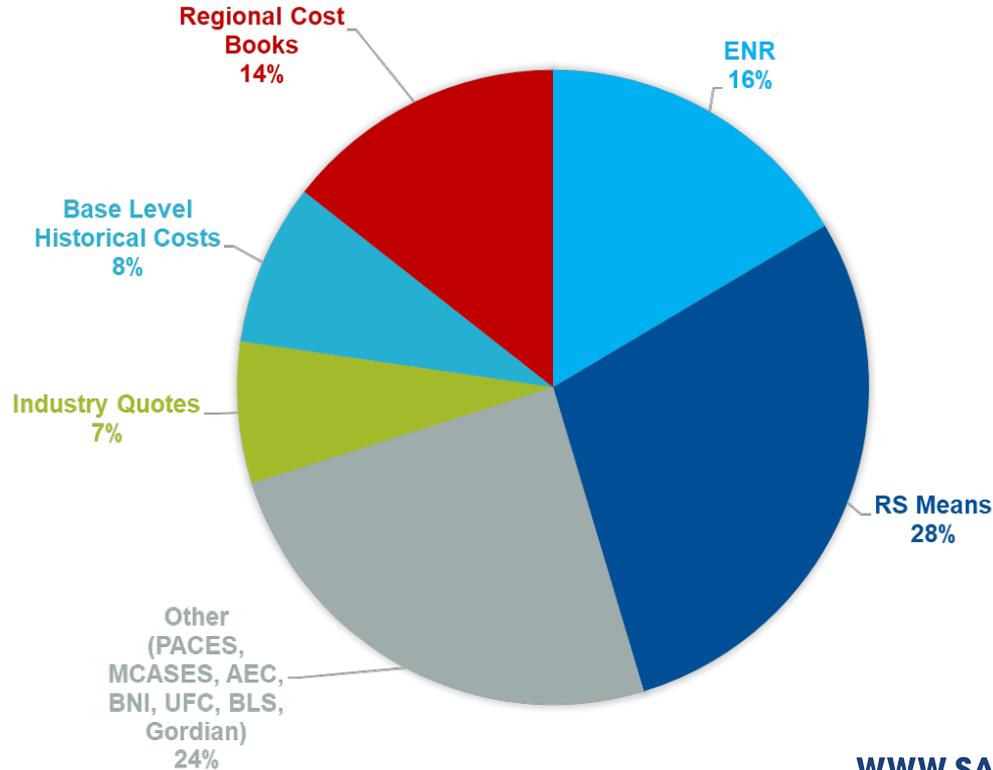
QUESTION 4

Identify pricing information (DoD, Federal, or Industry data sources) that industry recommended the DoD use to inform estimates during programming and for independent government estimates.



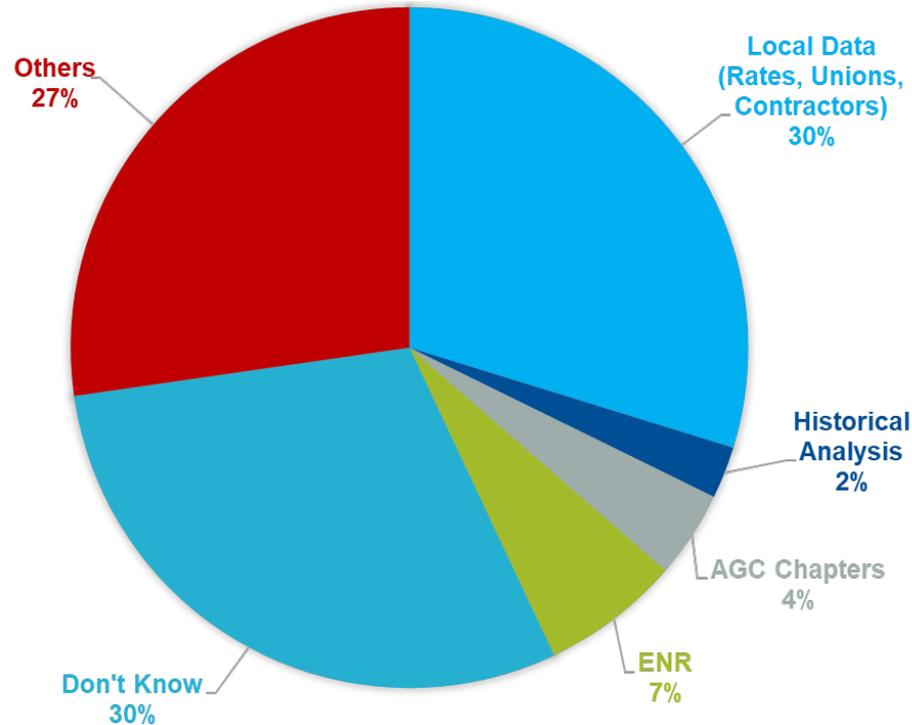
QUESTION 5

Identify forecasting tools and data sources for projecting cost of material, labor and equipment.



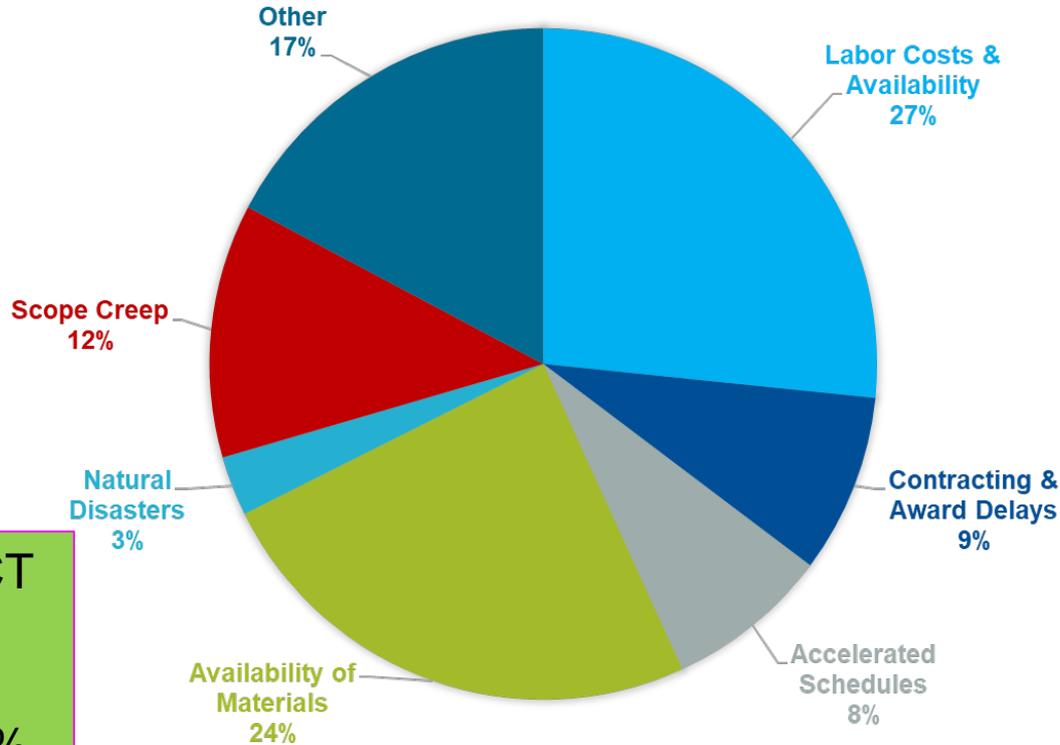
QUESTION 6

Identify tools and data sources Industry uses for identifying labor shortages and selling prices on a local or regional scale.



QUESTION 7

Identify the most significant typical cost risks to material, labor or equipment.



Scope Creep, CT
Delays &
Accelerated
Schedules = 29%

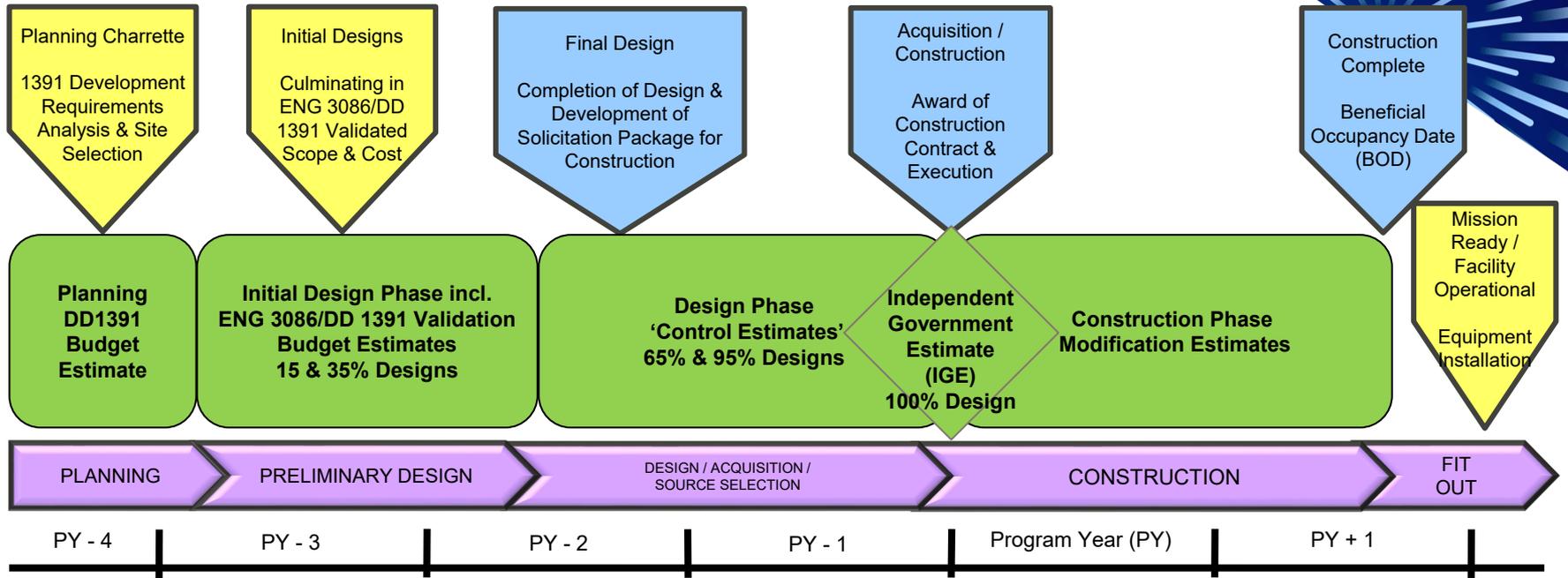
SPEAKER



- **Started with USACE in Tulsa in 1994.**
- **Worked in Kansas City, Iraq, HQ, Sacramento, San Francisco and Afghanistan.**
- **Just returned to USACE after 5 years with Army Installation Management Command in Hawaii.**
- **Loves the mountains - hiking, skiing, rafting, biking - and wine.**

Dr. Christine Altendorf, P.E. SES, Chief of Engineering and Construction, U.S. Army Corps of Engineers

Army MILCON Cost Engineering – Construction



Across the lifecycle both parametric and detailed unit cost (quantity take off) methods are used for preparing cost estimates.

The most important factor in cost estimate reliability is the maturity level of the project definition deliverables/scope.

Some of the data and tools that are employed to assist in the preparation of construction cost estimates are listed to the right, in no particular order or preference.

- PC Cost/PAX Newsletter Unit Costs & UFC 3-701-01 Unit Costs
- DD1391 Cost Estimate Templates
- PACES®
- Commercial Pricing Data
- MCACES/MII
- Equipment Pamphlet 1110-1-8
- Labor Library
- Cost Book

- Excel-based estimating workbooks
- Published estimating forms
- Checkrate
- Market Research/Certified Labor Payrolls/Vendor Quotes/Productivity Studies
- OMB inflation rates/DoD Selling Price Index/Published indices

USACE MILCON Cost Engineering Challenges

- Current Challenges – COVID19/Incorporating current market conditions
 - Learning session with cost engineers on market conditions, market condition research, and incorporation of market conditions in cost estimates (4 June 2020) [Hosts: Cost Engineering Center of Expertise, Institute For Water Resources]
 - Follow up Community of Practice-wide sharing sessions (planned throughout the summer of 2020)
- Process Challenges
 - Engaging cost engineers early and often in the process. Cost engineers from USACE or USACE AEs are not always included in the planning charrette and therefore may have little to no visibility on the cost engineering practices used to set the Programmed Amount.
 - Estimating to the design, not to the Programmed Amount.
 - Resourcing cost estimate product development in AE contracts appropriately.
 - Adopting best practices for reviews, and resourcing reviews of cost estimate products in AE contracts.
 - Changing the process for incorporating contingency, from straight 5% construction contingency only (0% design contingency) to the total contingency amount/% determined via Cost & Schedule Risk Analysis (CSRA) [Total contingency - 5% construction contingency = design contingency].

USACE MILCON Cost Engineering Initiatives

- Designated DoD Construction Agent Assessment
 - Developed form for standard reporting
 - Held four learning sessions to educate cost engineers
 - USD Lord memorandum dated 17 March 2020
 - AACE International Recommended Practice 56R-08, Cost Estimate Classification
 - AACE International Recommended Practice 41R-08, Range Estimating
 - Tips on conducting the assessment
- Personnel/USACE Cost Engineering Community of Practice
 - 2 Headquarters Cost Engineers
 - 9 Division Cost Chiefs
 - 45 District and Center Cost Chiefs
 - 300 District Cost Engineers
 - 150 are certified cost professionals
 - Use Direct Hire Authorities, Department of the Army Intern Program, all available outreach methods (e.g., USAJOBS, Indeed.com)
 - 8 x 40-hour PROSPECT training courses on cost engineering/construction scheduling

(e.g., Tri-Service Cost Professional Certification, AACE International, American Society of Professional Estimators)

SPEAKER



- **Prime Contractor on my home.**
- **Worked at NAVFAC for 32 years, A/E for 7 years.**
- **Enjoy hiking, biking, kayaking, music, and travel.**
- **First grandson is 6 months old**
- **8 Hokies in the family.**

R. David Curfman, P.E. SES, Chief Engineer and Director of Capital Improvements, Naval Facilities Engineering Command

NAVFAC Cost Estimating Challenges

- Current Challenges – COVID19
 - Tracking Impacts to:
 - Current Construction Projects
 - Future Program Budgets
- Process
 - Programming by others often misses Supporting Costs
 - Budgeting several years in advance
 - Appropriations based on early budget
 - Implementing Project Budget Assessments (All MILCON)
 - Increasing use of CSRA
 - Early identification & management of risk

NAVFAC Cost Estimating Initiatives

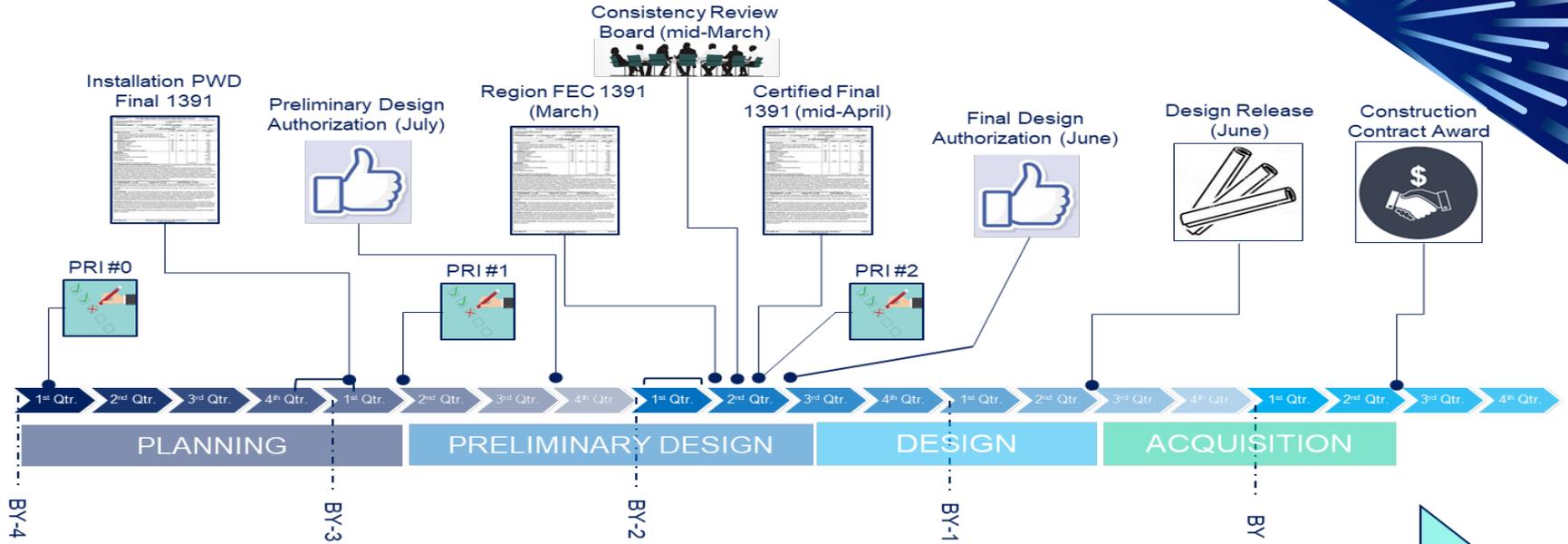
- Analysis

- Developing project life-cycle cost database
- Expanding historical cost data base to include project costs at completion
- Many cost impacts due to customer changes,

- Personnel

- Increasing skills diversity with the addition of GS-0301 Cost Estimator
 - Targeting individuals with private sector construction cost estimator experience
 - AACE certification
- Hiring Economist
 - Trend Analysis, economic impacts of global events, & future programming strategies

Cost Tools – Project Lifecycle



Parametric

- Guidance Unit Costs
- Area Cost Factors
- Historical
- PACES

Semi-Detailed

- PACES / MII
- Cost Schedule Risk Analysis

Detailed

- Material Takeoffs
- MII
- Cost Schedule Risk Analysis

SPEAKER



- **Air Force Civil Engineering Veteran.**
- **Helped develop PACES & RACER parametric estimating Systems.**
- **Its all about the Economy & Timing!**
- **Son is a USACE Cost Estimator.**

**Dave Andrews, CCP, Vice President, Project Controls,
MOCA Systems, Inc.**

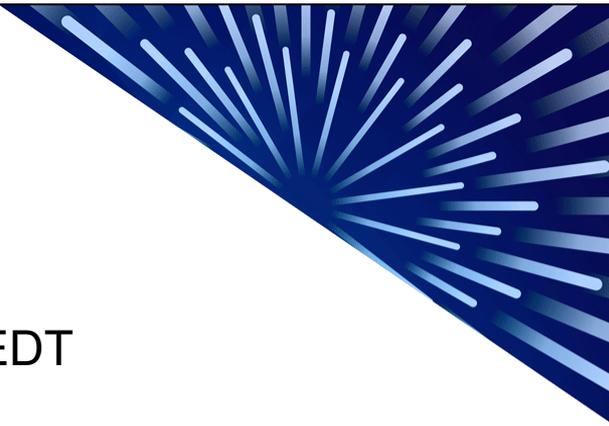


Q&A AND FEEDBACK

Please enter your questions in the Q&A box and direct your question to a specific person if appropriate.

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The next bank of sessions begins at 4:00 pm EDT

Until then....enjoy your afternoon cookie break!

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