SAME Joint Post Meeting
Rhein-Main
Kaiserslautern
UK

Challenges of Estimating and Managing Design and Construction Cost Risks in Europe

23 February 2022
HOUSEKEEPING

The presentations are available on our websites at

- Rhein-Main Post | https://www.same.org/Rhein-Main-Post
- Kaiserslautern Post | https://www.same.org/k-town
- UK Post | https://www.same.org/uk

This session will be recorded and posted to the Post websites and YouTube channels later in the week.

Please switch off your camera and keep your microphone muted until the Q&A session.

Please post your questions in the chat as we go along.
Introductions

- Rhein-Main Post President – Scott Turygan
- Kaiserslautern Post President – Col Scott Matthews
- UK Post President – Maj Jethro Sadorra
Greetings from Scott Turygan, our 2022 Rhein-Main Post President, who unfortunately could not join us today. Our Board plans to continue throughout 2022 the engaging and informative monthly meetings that we have all valued these last years.

Our priorities in 2022 are:

• Industry-Government Engagement programs that improve our collaborative work efforts.
• TechTalks that advance our engineering and management knowledge.
• Fun events that offer networking and build solidarity between our Post members.
• Support to initiatives of STEM and SAME Young Professionals that foster our community’s emerging engineers.

We invite you to share your interests and suggestions for our Post’s year ahead (rhein.main.same@gmail.com)
2022 RM Sustaining Members
Greetings from COL Scott Matthews who is not able to join us today.

Our priorities in 2022 are:
- Learning New Material | Professional Development
- Networking with Others in Industry
- STEM | School Outreach | STEM Scholarships

We invite you to share your interests and suggestions for our Post’s year ahead (kaiserslautern.same@gmail.com)
2022 KL Sustaining Members
Greetings from Maj Jethro Sadorra.

Our priorities in 2022 are:
• Push/Pull Post for 2023.
  • Get back to in-person engagements.
  • Increase active memberships.
  • Recognition (streamers, conferences, etc.).

We invite you to share your interests and suggestions for our Post’s year ahead (ukpost.same@gmail.com)

https://www.same.org/UK
2022 UK Sustaining Members
Challenges of Estimating and Managing Design and Construction Cost Risks in Europe
MILCON PROJECT AUTHORIZATION DEVELOPMENT

USACE COST ENGINEERING SUPPORT

Patricia Bolton, CCE
North Atlantic Division
Cost/Design/ Value Engineering Lead

William Dailey, CCE
Europe District Cost Engineering Lead

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ARMY MILCON COST DEVELOPMENT PROCESS

Army MILCON Design Directives authorize project progress in stages

Project authorizations were typically based on Code 3 parametric design representing 5-15% project design completion; therefore, costs were parametric. Guidance Unit Costs (GUCs) were the cost basis and developed from historical analysis of facility types.

Beginning 2013, the Army started phasing project authorizations based on Code 2 directives requiring Parametric Design Report (PDR), cost validation (ENG3086), and a 35% design.

Goal: Improve project scope budgets based on 35% design & commensurate cost
All project sponsors have different budgeting timelines and Project Readiness Index (PRI) standards for their Budget Estimate Submission (BES) to OSD.
(DeCA, DIA, DISA, DHA, DLA, USAF, USN, DoDEA, NSA, SOCOM, WHS)
DCA ASSESSMENT REQUIREMENTS

- Delegates statutory authorities and responsibilities relating to military construction.
- Redefines the DoD Construction Agent (DCA) and responsibilities
- Requires use of United Facilities Criteria (UFC) and the United Facilities Guide Specifications (UFGS) to the greatest extent possible

- Requires Assessment of the project budget estimate by the designated DoD DCA
- “To reduce the risk of underfunded projects and the resulting detriment to scope and schedule,…”
- Alignment of project cost estimates in Budget Estimate Submissions with industry guidance, Association for the Advancement of Cost Engineering (AACEi) Recommended Practice (RP)
  1. *Cost Estimate Classification* per AACEi RP 56R-08, *Cost Estimate Classification*, 7 August 2020
Applying AACE International Recommended Practice 56R-08
Range estimating improves project cost performance through application of quantitative risk analysis (QRNA).

Note: ASTM cost estimate accuracy ranges improve with QNRA

<table>
<thead>
<tr>
<th>Class</th>
<th>Expected Accuracy Range</th>
<th>Upper</th>
<th>Lower</th>
<th>Upper</th>
<th>Lower</th>
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<td>-5% to -15%</td>
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<td>1</td>
<td>Class</td>
<td>1</td>
<td>2</td>
<td>+10%</td>
<td>-5%</td>
</tr>
</tbody>
</table>

Table 1. ASTM E 2516-06, Standard Classification for Cost Estimate Classification System

DCA IMPLICATIONS TO PROJECT COST
RISK NEUTRAL COST ESTIMATE & CSRA

AACE International Recommended Practice 41R-08
- Per the USD Lord memo to determine the 'risk-neutral estimate'

Current (From UFC 3-730-01)

Industry Guidance

Risk Neutral estimate is the base estimate plus contingency at the 50% confidence level calculated using the Monte-Carlo based Cost & Schedule Risk Analysis.
CSRA Process

- Calculate contingency based on uncertainty
- Combines range estimating and Monte Carlo simulation

- Start with a completed/reviewed/approved base cost estimate

1. Develop ‘risk register’/list of risks and opportunities
   - Team meeting/brainstorming session
2. Determine risk level of identified risks
   - Likelihood & Impact
3. Assign distribution type to risks to be modeled
4. Set variance to modeled risks
5. Run the risk model/Monte Carlo Simulation
6. Assemble/document model outputs
   - Cumulative Distribution Function, S-curve
   - Contingency table
   - Sensitivity charts
7. Develop risk mitigation plan/mitigate risk
8. Update CSRA throughout design process
### RISK NEUTRAL COST ESTIMATE & CSRA

#### Risk Register - List of uncertainties affecting cost and schedule

<table>
<thead>
<tr>
<th>Risk Category</th>
<th>Risk Event Description</th>
<th>Impact, Risk Level, Likelihood</th>
<th>Cost</th>
<th>Schedule Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Technical Risks (GT)</td>
<td>Security - breeches for a TAC area</td>
<td>Low</td>
<td>10</td>
<td>1 Month</td>
</tr>
<tr>
<td>General Technical Risks (GT)</td>
<td>Security - breeches for a TAC area</td>
<td>Low</td>
<td>10</td>
<td>1 Month</td>
</tr>
<tr>
<td>General Technical Risks (GT)</td>
<td>Produce Utilities - Electrical and Water</td>
<td>Low</td>
<td>10</td>
<td>1 Month</td>
</tr>
</tbody>
</table>

1. Risks considered by category  
2. Likelihood, Impact, Risk level  
3. & 4. Distribution, Variance to cost and to schedule

**Example**

| CO3 | Availability of subcontractor resources | There are limited subcontractors in the area and there are multiple other projects planned to be in construction in the same time frame. | With limited resources, subs from outside the area may have to be brought in, added cost to the project. |
1. Identify risks

Risk categories
- Organization and Project Management
- Contract Acquisition
- General Technical
- Architectural and Interior
- Civil/Site Design
- Structural
- Electrical, Mechanical, Fire Protection
- Equipment
- Commissioning/Certification
- Lands and Damages
- Regulatory and Environmental
- Construction
- Estimate and Schedule
- External

2. Determine likelihood, impact, risk level

Risk Matrix

<table>
<thead>
<tr>
<th>Likelihood of Occurrence</th>
<th>Certain</th>
<th>Very Likely</th>
<th>Likely</th>
<th>Possible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact or Consequence of Occurrence</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negligible</td>
<td>Marginal</td>
<td>Moderate</td>
<td>Significant</td>
<td>Critical</td>
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<tr>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
<td>High</td>
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<tr>
<td>Low</td>
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<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
</tr>
</tbody>
</table>

3. Assign Distribution type

Triangular

4. Set variance
to cost and
to schedule

Low: $, months
Most likely: $, months (from base cost estimate)
High: $, months

Example

<table>
<thead>
<tr>
<th>Project Cost</th>
<th>Project Schedule</th>
<th>Other Information</th>
<th>COST Model</th>
<th>Schedule Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Likelihood (S)</td>
<td>Impact (S)</td>
<td>Risk Level (S)</td>
<td>Low Variance (Min)</td>
<td>Likely (S)</td>
</tr>
<tr>
<td>Possible</td>
<td>Moderate</td>
<td>Medium</td>
<td>Possible</td>
<td>Marginal</td>
</tr>
</tbody>
</table>
5. Run model
   - Include risks that have medium or higher impact
   - % of project cost ~ > 0.5%
   - Too many risks waters down the analysis (10-20)
   - Monte Carlo simulation ~ random number generator
   - Calculates across each distribution modeled
   - Returns contingency value per confidence level
   - Run enough iterations to get a smooth graph

6. Assemble output

7. Develop risk mitigation plan
   - List of recommendations to buy down risk
   - For cost and schedule

8. Revisit at process stage gates
   - 35%, 65%, 95%, construction
• USD Lord memo requires calculation of the risk neutral estimate
  • Out of every 100 times, 50 will cost more, 50 will cost less
• Project sponsor can choose a higher confidence level for the budget estimate
  • Will increase ‘programmed amount’
  • Less scope will have to be cut to meet funded amount
• May result in less projects in the program
• Less above threshold reprogramming/re-authorization

RISK NEUTRAL COST ESTIMATE & CSRA

<table>
<thead>
<tr>
<th>Level of Confidence (%)</th>
<th>Base Cost Estimate</th>
<th>Contingency ($)</th>
<th>Contingency (%)</th>
<th>Contract Cost</th>
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<tr>
<td>0%</td>
<td>$43,000,000</td>
<td>-$1,700,000</td>
<td>-4%</td>
<td>$41,300,000</td>
</tr>
<tr>
<td>10%</td>
<td>$43,000,000</td>
<td>$2,100,000</td>
<td>5%</td>
<td>$45,100,000</td>
</tr>
<tr>
<td>20%</td>
<td>$43,000,000</td>
<td>$2,600,000</td>
<td>6%</td>
<td>$45,600,000</td>
</tr>
<tr>
<td>30%</td>
<td>$43,000,000</td>
<td>$3,400,000</td>
<td>8%</td>
<td>$46,400,000</td>
</tr>
<tr>
<td>40%</td>
<td>$43,000,000</td>
<td>$3,900,000</td>
<td>9%</td>
<td>$46,900,000</td>
</tr>
<tr>
<td>50%</td>
<td>$43,000,000</td>
<td>$4,300,000</td>
<td>10%</td>
<td>$47,300,000</td>
</tr>
<tr>
<td>60%</td>
<td>$43,000,000</td>
<td>$5,100,000</td>
<td>12%</td>
<td>$48,100,000</td>
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<tr>
<td>70%</td>
<td>$43,000,000</td>
<td>$5,600,000</td>
<td>13%</td>
<td>$48,600,000</td>
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<tr>
<td>80%</td>
<td>$43,000,000</td>
<td>$6,400,000</td>
<td>15%</td>
<td>$49,400,000</td>
</tr>
<tr>
<td>90%</td>
<td>$43,000,000</td>
<td>$7,300,000</td>
<td>17%</td>
<td>$50,300,000</td>
</tr>
<tr>
<td>100%</td>
<td>$43,000,000</td>
<td>$10,700,000</td>
<td>25%</td>
<td>$53,700,000</td>
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</tbody>
</table>
Summary

• A numerical method to calculate contingency cost based on an assessment of uncertainty
• Provides insight to project cost and schedule risks
• Provides the level of confidence with the budget estimate to the project sponsor and OSD
• Informs the DoD on the delivery decisions for the construction program with the intent for improved delivery
MILCON PROJECT AUTHORIZATION DEVELOPMENT

USACE COST ENGINEERING SUPPORT

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Risk Management
Introduction
Introduction

- What is risk?
- How do determine what risks are present and their impacts?
- How do we determine the probability of risks?
- Developing a risk matrix
- What is the matrix used for?
- How do we manage risk?
What is risk?

- The unknown
- The known
- The possibilities
- Positive – Opportunities for improvements
- Negative – Threats with bad impacts to cost and schedule
Determining what risks are present and impacts

- Brainstorming as a team
- Market Analysis
- Discussions with stakeholders
- Evaluation of recent projects
- Consultation with authorities
Determining the probabilities

- Use recent experience as case studies
- Consultations with experts
- Direct estimates
- Simulations
Assembling a risk matrix

- List all opportunities and risks identified
- Evaluating each with the entire team (workshop)
- Insert the impacts and probabilities
Managing risk

- Classify the actions to be taken
  - Accept – it’s just worth taking on that risk
  - Avoid – just stay away—don’t enter the game or that part of the game
  - Mitigate – take action to change the game
  - Transfer – do what is needed to place responsibility for the risk on others—best example is contract language

- Mitigation actions reduce risk of threats or improve the probability of opportunities
  - Must be specific, measurable and actionable
  - They normally have a deadline – or they die
What should the matrix be used for?

- Management tool to take timely action
- Determines contingency
- Releasing funds earlier than a “gut feel”
How do we manage risk?

- Identify
- Evaluate
- Track
- Revisit
- Reduce
- Release
Grafenwoehr Draft Summary
Grafenwoehr ORTC Risk Analysis Summary

<table>
<thead>
<tr>
<th>Cost Model</th>
<th>Schedule Model</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low Variance (Min)</td>
<td>Low Variance (S) (Min)</td>
</tr>
<tr>
<td></td>
<td>Likely (C)</td>
<td>Likely (S)</td>
</tr>
<tr>
<td></td>
<td>High Variance (80%H)</td>
<td>High Variance (S) (80%H)</td>
</tr>
<tr>
<td>$920,000</td>
<td>$4,247,000</td>
<td>140 Days</td>
</tr>
<tr>
<td>$11,565,000</td>
<td></td>
<td>1220 Days</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2622 Days</td>
</tr>
</tbody>
</table>

Notes:
- The CSRA Likely cost $4,247,000 once agreed would become the basis for the Project Contingency.
- Currently the Contingency of $4,247,000
- If you the Cost Estimate of $95,000,000 it is at 4.47%
- Contingency should look at the Total Project Estimate and then drill down by Design Cost & Construction Cost.
- The CSRA format does not account for when a risk would be viewed for reduction or elimination.
  - e.g. Once awarded the PM.02 Risk of breaking down in packages to fit funding goes away.
  - Currently that likely risk is $500,000.
### Grafenwoehr ORTC Risk Register

<table>
<thead>
<tr>
<th>Risk Event Description</th>
<th>FOD Impacts on impact and likelihood</th>
<th>Project Cost</th>
<th>Project Schedule</th>
<th>Other Information</th>
<th>COST</th>
<th>Schedule Blocks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significantly impact to schedule</td>
<td>Low/Moderate: Medium</td>
<td>Affordable</td>
<td>On time</td>
<td>No impact</td>
<td>$50,000</td>
<td>10 Days</td>
</tr>
<tr>
<td>Break-point due to project delays</td>
<td>High/Moderate: High</td>
<td>High Cost</td>
<td>On time</td>
<td>No impact</td>
<td>$75,000</td>
<td>15 Days</td>
</tr>
<tr>
<td>Product development by various sources or entities critical to project's success</td>
<td>Low/Moderate: Low</td>
<td>Affordable</td>
<td>On time</td>
<td>No impact</td>
<td>$30,000</td>
<td>5 Days</td>
</tr>
<tr>
<td>Project conflicting with other projects, funding, or resources</td>
<td>Medium/Moderate: Medium</td>
<td>Moderate</td>
<td>On time</td>
<td>No impact</td>
<td>$40,000</td>
<td>12 Days</td>
</tr>
<tr>
<td>Functional and Technical issues require additional design and construction work</td>
<td>High/Moderate: High</td>
<td>High Cost</td>
<td>On time</td>
<td>No impact</td>
<td>$80,000</td>
<td>20 Days</td>
</tr>
<tr>
<td>Unanticipated requirements or changes to project scope</td>
<td>Medium/Moderate: Medium</td>
<td>Moderate</td>
<td>On time</td>
<td>No impact</td>
<td>$50,000</td>
<td>15 Days</td>
</tr>
<tr>
<td>Multiple approvals need to occur</td>
<td>Medium/Moderate: Medium</td>
<td>Moderate</td>
<td>On time</td>
<td>No impact</td>
<td>$60,000</td>
<td>18 Days</td>
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</tbody>
</table>

### Additional Information
- **Risk Probability**: High
- **Risk Impact**: High
- **Risk Likelihood**: High
- **Risk Score**: High
- **Risk Priority Number (RPN)**: 25

### Countermeasures
- Implement risk mitigation strategies
- Conduct regular risk assessments
- Monitor project progress closely

### Notes
- Ensure all project stakeholders are aware of the risks.
- Regularly update the risk register as new information becomes available.

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### Project Cost
- **Low**: $10,000
- **Medium**: $25,000
- **High**: $50,000

### Schedule Blocks
- **Early**: 10 Days
- **Late**: 20 Days
# Grafenwoehr ORTC Risk Analysis Summary by Risk Category

<table>
<thead>
<tr>
<th></th>
<th>Likely Cost $</th>
<th>Avg Cost $</th>
<th>High Var $</th>
<th>Likely Schedule</th>
<th>Avg Schedule</th>
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<tr>
<td>PM</td>
<td>9</td>
<td>$975,000</td>
<td>$106,333</td>
<td>$1,000,000</td>
<td>430</td>
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<tr>
<td>CA</td>
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<td>$500,000</td>
<td>$500,000</td>
<td>$1,000,000</td>
<td>105</td>
</tr>
<tr>
<td>TR</td>
<td>6</td>
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<td>$194,167</td>
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<td>$35,000</td>
<td>$50,000</td>
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<td>$250,000</td>
<td>$500,000</td>
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<td>$0</td>
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<td>$20,000</td>
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<tr>
<td><strong>TOTALS</strong></td>
<td><strong>37</strong></td>
<td><strong>$4,265,000</strong></td>
<td><strong>$1,528,833</strong></td>
<td><strong>$9,920,000</strong></td>
<td><strong>1220</strong></td>
</tr>
</tbody>
</table>

PM = Organizational & Project Mgt Risks
CA = Contract Acquisition Risks
TR = General Technical Risks
AI = Architectural & Interior Risks
ME = Mechanical Risks
FP = Fire Protection Risks
EQ = Equipment Risks
RG = Regulatory Risks
CC = Commissioning/Certification Risks
CO = Construction Risks
SR = Security Risks
ES = Estimating & Schedule Risks
EX = External Risks
<table>
<thead>
<tr>
<th>Risks</th>
<th>CENAU</th>
<th>DPW</th>
<th>BAUMAT</th>
<th>CENAU / BAUMAT</th>
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<th>Contractor</th>
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<td>TR</td>
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## Grafenwoehr ORTC Risk Analysis Summary by Effected Project Component

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# Grafenwoehr ORTC Risk Analysis Summary by Cost Impact

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## Grafenwoehr ORTC Risk Analysis Summary by Schedule Impact

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Questions?
Risk Management
The Project

- Grafenwöhr ORTC
- Phases 1 & 2
  - 7 total phases

- Various facility types
- Full site development
  - Currently forested area
Determining what risks are present and impacts

- Brainstormed as a team
- Performed local Market Analysis
- Held extensive discussions with stakeholders (DPW, USACE, Bauamt)
- Evaluation of recent similar projects (type and location)
- Consultation with authorities (permitting agencies, local governments)
Determining the probabilities

- Recent experience compared as case studies
- Consultations with local experts
- Direct estimates with local supplier, vendors and subcontractors
- Simulations using different models
Managing risk

- Classified the actions to be taken
  - Accept – it’s just worth taking on that risk
  - Avoid – just stay away—don’t enter the game or that part of the game
  - Mitigate – take action to change the game
  - Transfer – do what is needed to place responsibility for the risk on others—best example is contract language

- Mitigation actions reduce risk of threats or improve the probability of opportunities
  - Specific, measurable and actionable items
  - Put a deadline on making the determination
Challenges of Estimating and Managing Design and Construction Cost Risks in Europe

Robert Rocco
Tuna Tanriover
Project Overview

- Near the Ramstein Air Base in southwest Frankfurt, Germany
- Replaces the U.S. military’s largest overseas hospital
- Will serve more than 200,000 Americans in Europe
- Recently, the Notice-to-Proceed was given to the main contract and the overall Project is expected to be completed by 2027
Project Challenges

- German vs. US Standards
- Design Changes
- German Construction Market
- Multiple Stakeholders
Risk Assessment Process

Risk Interviews: With project stakeholders including German Government to gather project risk information.

Risk Workshops: In person risk workshops to discuss the project’s risk profile in-depth and reach a consensus on the risks identified in the risk register.

Quantitative Risk Analysis: Integrated Cost and Schedule Risk Analysis (Monte-Carlo Simulation) using Crystal Ball to generate confidence levels to the project’s budget and schedule and to identify top risks.
CSRA Challenges

- Understanding among the project personnel of the CSRA process
- Late schedule development to support the CSRA
- Implementation of the risk mitigation plans
Cost Impacts on Secure Facilities in Europe

Focus on the Construction Security Plan

Kevin J. Harder, PE
Program Director Europe Design Services
Cost Impacts from Construction Security Plan (CSP)

- CSP required for all Secure Facilities
- Establish Procurement Protocols
- Secure Storage Laydown Area (SSLA)
- Specialized Inspectors / Guards

Risks are dependent on the maturity of these considerations / parameters at the time of the CSRA development.
Contact

Kevin J. Harder, PE

HarderKJ@bv.com  |  +1 (913) 458-9176
Solutions for OCONUS SRM Estimating
RAF Lakenheath SABER Development

February 23, 2022
The History of Job Order Contracting

Did you know that it was invented in Europe?!

Challenges at SHAPE in the 1980s:

• Long procurement cycles for routine repairs impacted organization mission
• Limited pool of qualified local contractors
• Full design for simple projects in multiple languages increased costs with little added value
• Desire for a partnership with high-performing contractors to serve the facilities mission in a responsive way

JOC Results:

• Faster project delivery (3-9 months less)
• Greater on time (87%) and on budget (91%) project completion
• Streamlined engineering and design efforts
• Assurance of cost reasonableness and construction and administrative cost savings
• Better contractor performance
• Partnering relationship
• More opportunities for local small and disadvantaged business
• Effective use of year-end funds


JOC became a standard for SRM execution, with particular value in constrained environments. But, there are challenges to best practice program execution, most acutely in OCONUS programs, due to the need for accurate cost data.
Previous OCONUS Cost Data Engagements

Puerto Rico/USVI Locational Factors

- Developed for FEMA to better manage Recovery costs for $140B in damage from Hurricanes Irma and Maria
- “High-Resolution” City Cost Indexes incorporates contextual costs (productivity, material logistics)
- CONUS-derivative construction market enabled the adaptation of RSMeans data

Middle East Metric Construction Task Catalogs©

- Supporting Kuwait, Jordan, Saudi Arabia
- Adapted TRACES Metric data for JOC with local research and representative price input methodology

https://www.army.mil/article/235429/old_contracting_tool_leads_to_new_successes_in_kuwait
Case Study: Challenge

- USAF at RAF Lakenheath and Mildenhall needed its own SRM execution capacity
- Limited JOC/SABER experience within CE
- Explored cost data and other options through Market Research and RFI
- Concerns included:
  - Alignment of unit prices with building requirements and standards
  - Technology enablement
  - Contractor familiarity with data and process
  - Solicitation and specification language
  - Gov’t and contractor training
Case Study: Solution

- Gordian reviewed multiple British cost data options
- National Schedule of Rates was chosen for auditability and defensibility
- Engineering review and gap analysis to ensure coverage of needed line items
- Gordian partnered with NSR to license the data and integrated it into eGordian JOC/SABER workflow software
- Intensive support of solicitation development, terms and conditions, to ensure alignment with cost basis
- $79M, 5-yr SABER contract
Case Study: Considerations

- **Currency**: Cost basis and entire contract in British pounds
- **Reconciliation of many building standards**: Contractual order of precedence established, will be refined on a task order basis
- **Seed project configuration**
- **Intensive support of solicitation language to ensure alignment with cost basis**

Any conflict between contract specifications and task order documents must be addressed at the Task Order level. The order of precedence for conflict/discrepancies between contractual documentation is as follows unless the Contracting Officer has made a determination in writing indicating otherwise:

1: SABER Master Agreement/Contract
2: Individual Project Statement of Work
3: Attachment Item II: Guidelines for Using the Unit Price Guide
4: Unit Price Guide Line Item Descriptions
5: Specifications:
   5a: Legally required in the UK (health and safety, building controls, etc.)
   5b: Joint Service Publications (JSP)
   5c: British Standards (BS)
   5d: Unified Facilities Criteria (UFC) which includes US Codes NFPA, etc.
   5e: Ministry of Defense
   5f: Defense Maintenance
   5g: Installation Facility Standards
   5h: NSR Preambles
   5i: Gordian Technical Specifications
Case Study: Results in Process and Go Forward

- Solicitation is currently open
- Costs will be updated annually in alignment with NSR’s commercial cost updates
  Intensive on-site support will accelerate execution capacity
- Plan for continuous gap analysis and development of USAF-specific cost data requirements over time
  - Partnership of Gordian and National Schedule of Rates
- **Common Goal of managing risk for Gov’t and Contractor**
  - Different goal than a MILCON estimate—working to maximize SRM funding and expedite execution with fair and reasonable price basis across multi-year contract
- Ongoing development of other international resources to support OCONUS execution
Contact

Lisa Cooley, VP Federal Solutions
l.cooley@gordian.com
505-239-3446
Challenges of Estimating and Managing Design and Construction Cost Risks in Europe

DISCUSSION
Thank you for joining us today!

Rhein-Main Post | https://www.same.org/Rhein-Main-Post
Kaiserslautern Post | https://www.same.org/k-town
UK Post | https://www.same.org/uk