Track 2, Session 1
Real Life Risk Experience

From Vision to Contract:

"So you want to buy a mega-WHAT?!"

LLNL-PRES-407535

Complying with all the rules, regulations, and paperwork associated with big ticket acquisition is not for the fainthearted. All acquisitions start with the requirement phase, and successful ones lead to contract signature. This session will cover the many steps in between, including budget approval, technology survey, market survey, competitive procurement, request for proposal, proposal evaluation, source selection, and the legal review gauntlet. It is vitally important for risks (both technical and business related) to be identified and analyzed as early in the project as possible to gain approval and to build in contingencies. A failure point for many large projects is when risks are not considered up front.

Session 1 Participants

Culhane	Candace	DOD	LEAD
Stearley	Jon	SNL	LEAD
Louis	Steve	LLNL	NOTES
Andersen	Aaron	NCAR	
Ang	James	SNL	
Antypas	Katerina	NERSC	
Cook	Paul	SGI	
X Gorda	Brent	LLNL	
Hamilton	Pam	LLNL	
Knutson	Dale	PNNL	
X McKenna	Thomas	PNNL	
Morton	David	SGI	
Munoz	Jose	NSF, HQ	
Regimbal	Kevin	PNNL	
X Schneider	Barry	NSF, HQ	
X Vieira	Wayne	SUN	

Top Risks

1. **RFP RISKS**: Inaccuracies, omissions, and over-aggressiveness in the RFP (missing key user or facility requirements). Benchmarks do not accurately represent workload. [buyer] RFP too aggressive in schedule, technology, customization, or cost. [buyer] / Misalignment of technology vs the dollars
2. **SLUGGISH PROCUREMENT PROCESS**: If the acquisition process goes too long (inexperienced people, program, project, and legal reviews, protests…), opportunity cost increases [buyer, bidder]. Tech survey, RFI, Draft, …
3. **OVERESTIMATE STAKEHOLDER BUY-IN**: management commitment levels. [buyer, bidder]
   Eg stakeholders: HQ, Lab, Vendor, Users, Congress / Funding fluctuations outside the control of the program manager
4. **TECHNOLOGY CHANGES BETWEEN BID AND CONTRACT SIGN** [buyer, bidder]

Other Risks

1. Overestimate internal or vendor capabilities. [buyer, bidder]
2. Protest - losing bidder protests resulting in long painful re-evaluation (include margin between notification and signing)
3. Risk of not getting qualified reviewers and users due to time and NDA requirements.
4. Inexperience or ignorance of the full acquisition process, including regarding approval process
   (experienced people mentor inexperienced people on purchases)
   [buyer, bidder]
5. Inappropriate sharing of information - low probability but high impact: possible protest/rebid. (Use strict NDAs.)
6. Vendor messing up on export control issues
7. How do you get your aquisition people to protect you from unreasonable bidding period extensions?
8. Market survey questions may prolong pre-contract phase

RFP RISKS

Inaccuracies, omissions, and over-aggressiveness in the RFP (missing key user or facility requirements). Benchmarks do not accurately represent workload. [buyer] RFP too aggressive in schedule, technology, customization, or cost. [buyer] / Misalignment of technology vs the dollars

Successful (or not) mitigation strategies?

- Lots of consultation with vendors, users, and staff to understand roadmaps, requirements, and site issues, including draft RFPs
- Set risk level commensurate with system class (advanced arch, capability, capacity)
- Fund technology development with additional vehicles (eg HPCS, PathForward, ACS)
- Identify accurate benchmark kernels, tests

Successful (or not) management techniques?

- Pairing of experienced and inexperienced people for mentoring
- Revise/iterate on RFP based on internal and peer reviews

Tailoring?

- Lightweight EVMS at appropriately tailored level of rigor

Gaps?

- Fast-track mechanisms for incremental systems (supercomputing “by the yard”)

SLUGGISH PROCUREMENT PROCESS

If the acquisition process goes too long (inexperienced people, program, project, and legal reviews, protests…), opportunity cost increases [buyer, bidder]. Tech survey, RFI, Draft, …

Successful (or not) mitigation strategies?

- Don't schedule critical decisions near major holidays etc

Successful (or not) management techniques?

- Adapt and reuse wherever possible (RFP, benchmarks, review teams, lawyers …)
- Dedicated HPC procurement officers and acquisition process
- Pre-brief decision makers

Tailoring?

- Lightweight EVMS at appropriately tailored level of rigor

Gaps?

- Legal negotiation between government and vendors are harder than they should be
- More effective escalation process for approvals
- Fast-track sole source authority where appropriate
- HPC advocates throughout decision chain

OVERESTIMATE STAKEHOLDER BUY-IN

Overestimate stakeholder buy-in / management commitment levels. [buyer, bidder]

Eg stakeholders: Users, Vendors, Lab, HQ, Congress / Funding fluctuations outside the control of the program manager

Successful (or not) mitigation strategies?

- Pre-brief decision makers, help them understand wider impact
- Incentivize users to gear up for new technologies/capabilities
- Understand diversity of user needs and priorities
- Understand decision maker priorities
- Establish accurate user expectations

Successful (or not) management techniques?

- Compelling arguments that solutions meet needs
- Be able to communicate strategic plan

Tailoring?

- Tailor your strategy and communicate your distinguishing value

Gaps?

- Can’t control congressional appropriations language
- Broad community consensus does not always guarantee buy-in

TECHNOLOGY CHANGES (good and bad?!)

Technology changes between bid and contract sign [buyer, bidder]

Successful (or not) mitigation strategies?

- Stay abreast of supplier technology roadmaps
- Flexible (or limited) RFP language (technology refresh)
- Strong and clear acceptance criteria

Successful (or not) management techniques?

- Maintain good buyer/bidder relationship

Tailoring?

Gaps?

- Decreasing ability to influence technology trends due to increasing size of commodity market

Additional Comments

- It is very important to document past performance (past performance could outweigh bid price)
- Need timely and efficient mechanisms to weed out unqualified bidders while still satisfying fairness requirements

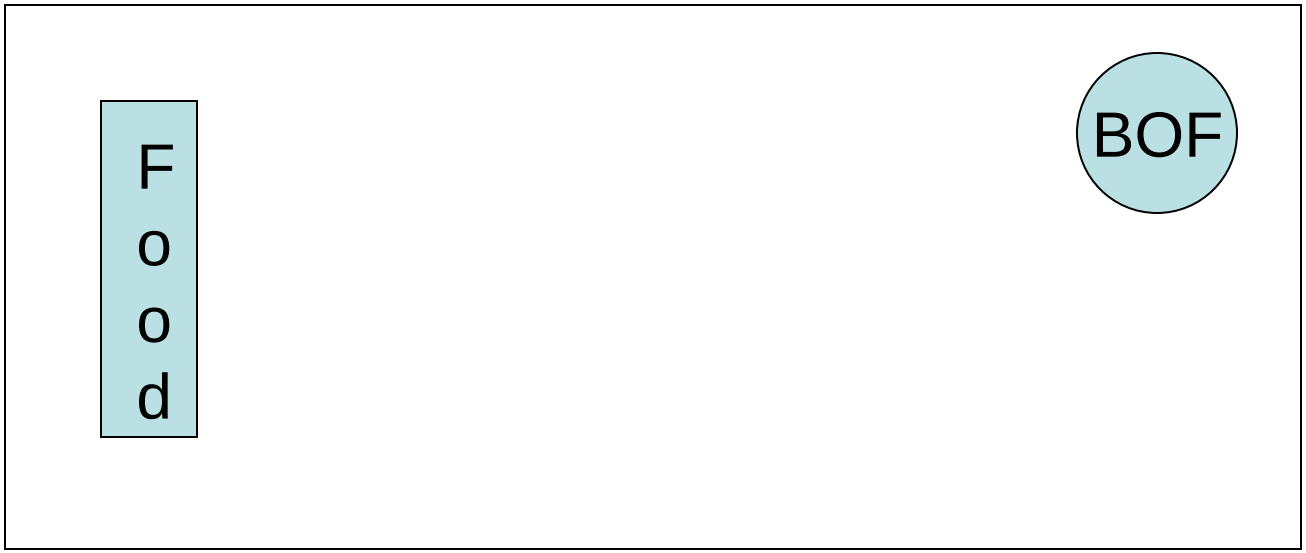
Top Risks

1. RFP missing key user or facility requirements.
   System does not fulfill its intended purpose (build the wrong system).
2. RFP too aggressive in schedule, technology, customization, or cost.
   Vendors don't bid, or can not deliver success.
   Schedule slippage due to document reviews, approvals, etc.
3. Overestimate internal or vendor capabilities.
   Failure due to selection of the wrong bid.
4. Overestimate stakeholder buy-in / management commitment levels.
   Eg stakeholders: HQ, Lab, Vendor, Users
   Failure due to insufficient support, shifting priorities, etc.
   Schedule slippage due to document reviews, approvals, etc.

5. Protest - losing bidder protests resulting in long painful re-evaluation
6. Technology changes between bid and contract sign
7. Inexperience or ignorance of the full acquisition process, including regarding approval process
   experienced people mentor inexperienced people on purchases
8. Misalignment of technology vs the dollars
9. Inappropriate sharing of information - possible consequence is protest/rebid. Use strict NDAs.
10. Risk of not getting qualified reviewers and users due to time and NDA requirements.
11. If the acquisition goes to long, that reduces the useful lifetime of the system.
12. Benchmarks do not accurately represent workload
13. Vendor messing up on export control issues
14. Funding fluctuations outside the control of the program manager

Lunch BOF:

"improve the ability to record and process log data"



Track 2: Real Life Risk Experience

Goal: identify top risks and how to handle them.

Keep it practical: what works and what doesn't?
(regarding the risks, and the risk management)

Guidance (not rules!):

What are the top risks in your area? [30 minutes max]

1) enumerate risks, 2) rank by importance, 3) select top 3-5.

yesterday's examples are starters; perhaps select one opportunity risk

For each top risk: [30 minutes each]

1) What have been some successful (or not) mitigation strategies?
2) What have been some successful (or not) management techniques?
3) What tailoring of management techniques is helpful?
4) What gaps remain, and how to cover them?

Reports:

1) title, chairs, participants [30 seconds]
2) risks (ranked by decreasing importance) [1 minute]
3) template questions on top risks [2 minutes each]

   Why did you select this risk? (Probability, impact, opportunity, …)