Leveraging early phase Systems practices

To explore Operational needs, capture all key Requirements
• Significant challenges for capital projects to elicit complete, accurate Requirements
• Propose early phase Systems practices to address these challenges
Why does this generate such an issue for capital projects?

- Missed or incomplete requirements equates to:
  - Missing needs, constraints
  - Missing operational context
  - Lacking system performance, functionality
  - Misalignment with staff resourcing / capability, funded maintenance strategy

Generates change orders, project delays, cost overruns
Challenges to eliciting complete, accurate Requirements

Missing key stakeholders
- Who are the stakeholders?
- Why is this no longer so obvious?
- Why do we miss stakeholders?
  • Who’s responsible party?
  • Multi-disciplinary systems
Challenges to eliciting complete, accurate Requirements

Users articulating their needs, requirements

– Availability of operations stakeholders
– Lack familiarity with latest technology, functionality
– Difficult without exposure to new system
– Focus on solutions too early – versus understanding operational context and needs
Early phase Systems practices to address challenges

Stakeholder identification & analysis

• Holistic view of who is a stakeholder
• Analysis:
  – Who will be impacted by this project?
  – Who may impact this project?

Iteratively reconsider whether missing stakeholders through project.  >> Start EARLY!
Summary of Customer Journey – decision points
Early phase Systems practices to address challenges

Develop Concept of Operations –
- Defining the operational context, primary needs, priorities, constraints
- Current “As Is” Operation, Future “To Be” Operation
- Operational Scenarios, across modes of operation
- Operational phasing & transition to new system
Early phase Systems practices to address challenges

SE techniques and practices:

• Systems facilitators conduct iterative series of workshops - iteratively document and validate

• Will typically start with “what users know”

• Employ techniques to expose latest available functionality relevant to needs and deployment context

Facilitated process of discovery & documentation
Early phase Systems practices to address challenges

Develop Concept of Maintenance –

Defining maintenance strategy for new system

- Maintenance needs, constraints;
- Analyze & identify RAMS performance targets
- Consider changes to: regimens; lowest replaceable units (LRU); skills needed – IT, comms networks, etc.

RAMS = Reliability, Maintainability, Safety / Security
Prepare for Operational Readiness – leverage Organizational Change Management practices
Early phase Systems practices to address challenges

Key benefits:

• Ensure more complete, accurate requirements
• Provides requirements traceability
• Defines basis for operational acceptance
• Provides clarity to design team, development teams, test and commissioning teams.

• Particularly important for Design/Build projects:
  – Greater urgency for agency to articulate agreed upon operational expectations to D/B entity
  – Convey common set of expectations as basis for test & acceptance criteria
  – Purpose is speed … late adjustments injects delays
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