Project Lifecycle Management

How to move from operation and maintenance, to migration and replacement

Federal Engineering, Inc.
"Unleashing the Power of Technology"

Session Overview

- Present key issues and considerations throughout the communications system lifecycle
  - Lifecycle Management,
  - System Maintenance/Repair vs. Upgrade vs. Replacement
- A high level action plan with recommendations
- Applies to all system projects
  - Land Mobile Radio (LMR) is used as an example
- Our goal is a highly interactive session

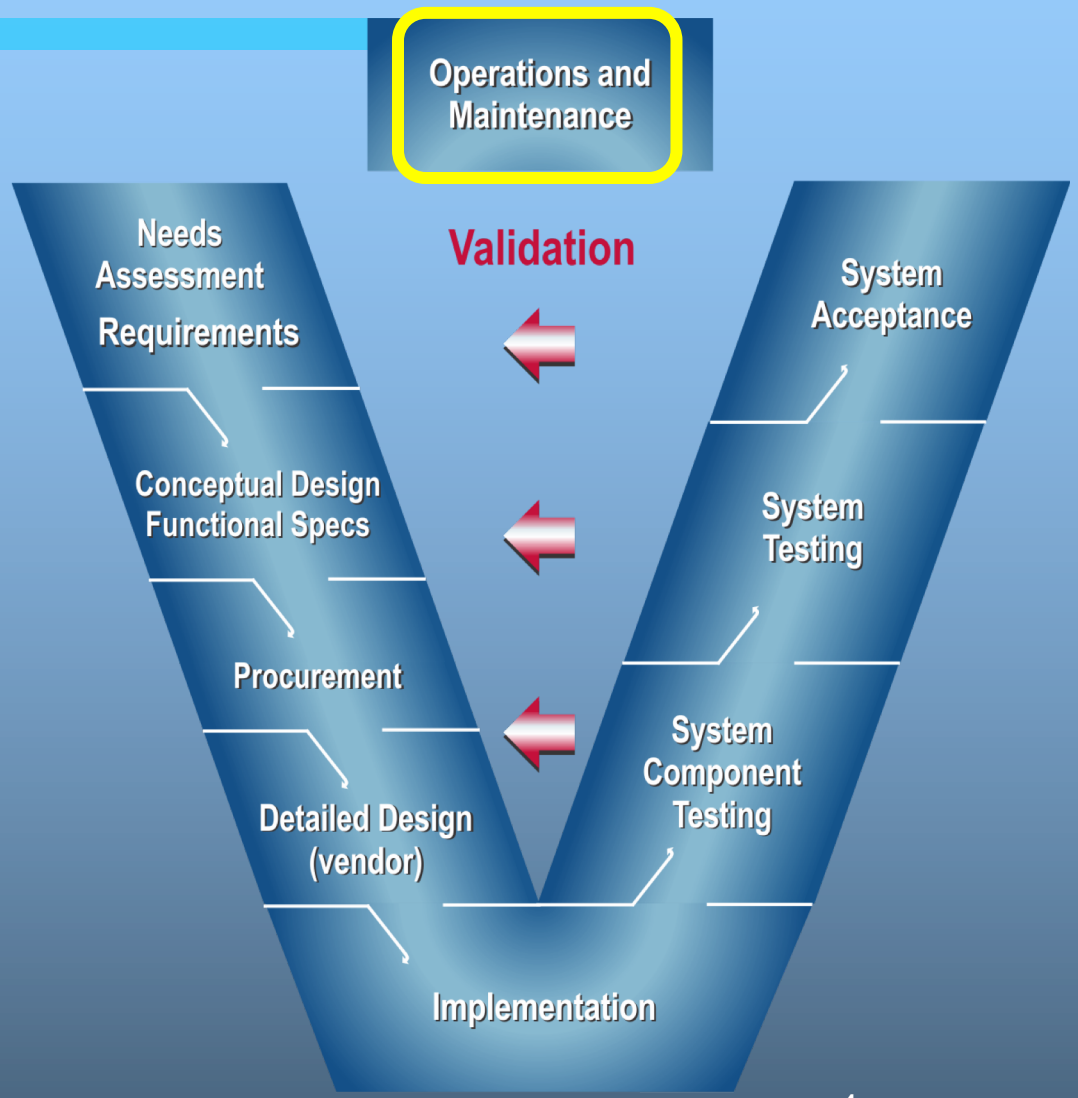
Participant Expectations

- What are your expectations from this session?
- Why are you here?
- What would you like to take away?
- What will be your related responsibilities?
- How can we help you do your job?

System Lifecycle

System Lifecycle Support

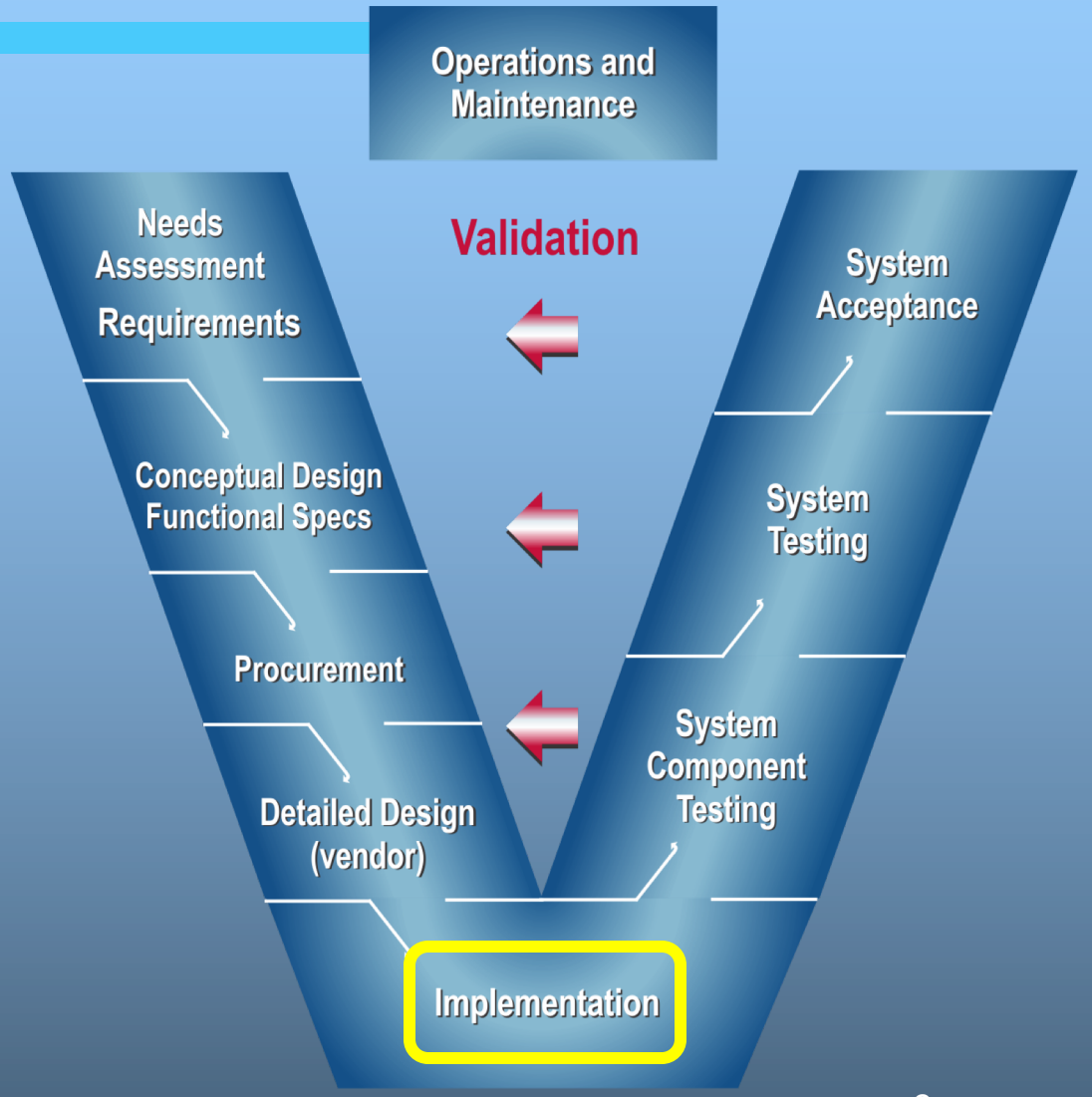
- Project Management
- Quality Assurance/Quality Control
- Cost Management
- Time/Schedule Management
- Resource Management
- Configuration Management
- Scope Management
- Implementation Oversight
- Testing Supervision and Review
- Change Control



When to start - It is never too early

- The best time:
  When defining the system to be procured
  - Part of the maintenance and support plan
  - Planned refresh etc.
- The latest (recommended):
  When the original warranty is coming up on expiration
- The most common:
  When a notification of cancelation of support is received
- If you missed the second; ***NOW!***

Implementation in the System Lifecycle



Identify Project Team

- The system stakeholders
  - Owners
  - Users
  - Maintenance agencies
  - Support agencies
  - Etc.
- The vendor (System integrator)
- The service supplier

Develop a Communication Plan

- Communicate, Communicate, Communicate
- Communicate up
  - Administrative, executive, and political levels
- Communicate down
  - Stakeholders, user groups, interoperability partners, and even other agencies not directly involved

DEFINE THE PROJECT

Repair, Upgrade, or Replace

Decisions, Decisions, Decisions

- What drives the decision?
- What points need to be considered?
  - Where is your system in its lifecycle?
  - What is the prospect for future funding?
  - How well does your system meet current and anticipated needs?

Existing System Analysis

- Baseline existing system(s)
- Review existing documentation
  - Previous studies, system and network diagrams, SOPs, policies and practices, licenses, interfaces (CAD, RMS, WMS, etc.), programming maps, equipment inventories (users & infrastructure)

Much of this can be avoided by starting early

- System(s) Assessment
  - Site surveys
  - Dispatch centers
  - Coverage

Capabilities and Needs Analysis

- Technical needs analysis
  - System reliability and maintainability prognosis
  - Equipment support timelines
  - Manufacturer feature roadmaps
- Operational needs analysis
  - Current needs not met
  - Emerging needs
- Gap analysis

REPAIR, UPGRADE, OR REPLACE

DECISIONS, DECISIONS, DECISIONS

How big is the gap?

Repair

- Best solution if;
  - –System meets most needs
    - Current needs
    - Emerging needs
  - –Mid lifecycle or earlier
  - –Funding is minimal

Upgrade

- Best solution if;
  - –System meets most needs
    - Can be updated for emerging needs
- Mid lifecycle
- Funding is available
- Maybe part of an ongoing program

Replace

- Best solution if;
  - –System starting to fall short of needs
    - Either current shortfall
    - Or significant emerging capability gap
  - –Beyond mid lifecycle
- Funding is available
- Evaluation of lifecycle plan for new system

A PROJECT IS A PROJECT

Repair, Upgrade, or Replace are all “Projects”!

- Manage each as a project to maintain control and assure success

Project Management Aspects

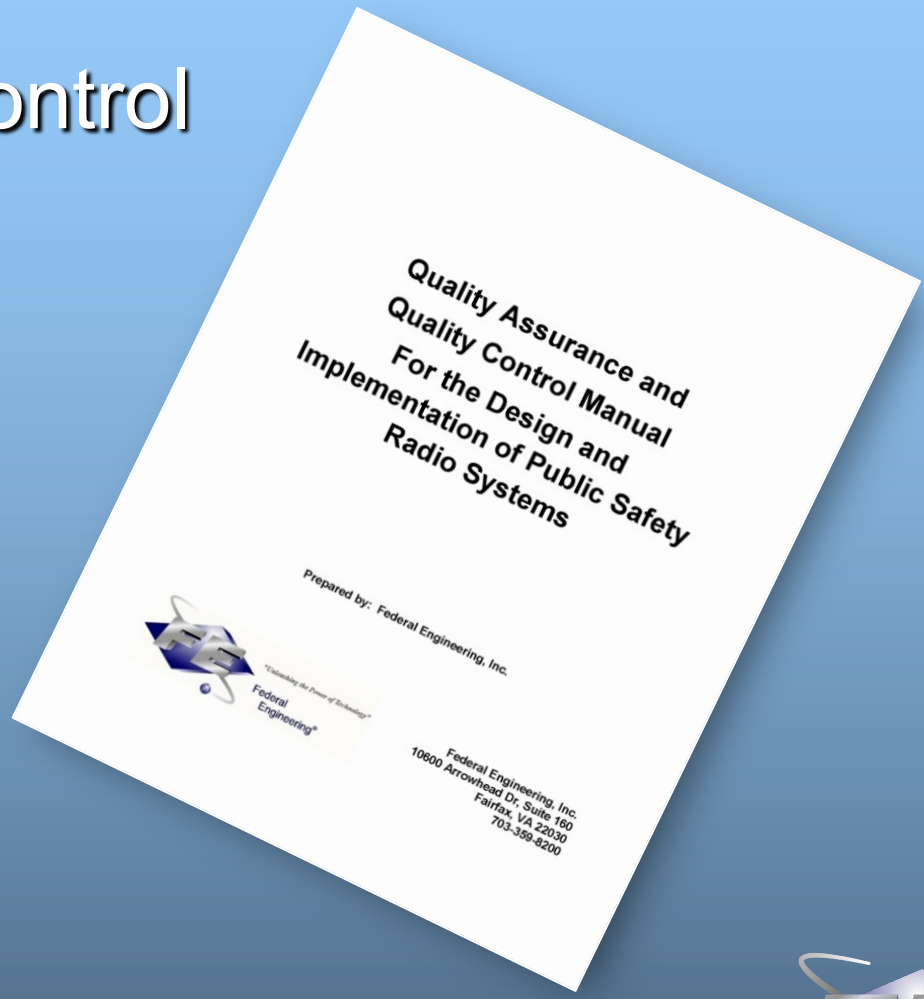
- Use project management tools and processes
- Put your team in place early
- Put your processes in place early

Define Responsibilities; Vendor or Owner

- Drawings
- Equipment lists
- Equipment deployment
- Installation
- Testing
- Correct problems
- Acceptance
- Cutover

Quality Assurance / Quality Control

- Quality assurance and quality control
  - throughout detailed design
  - and implementation
- Maintain “Punchlist”
- Keep the team in the loop
- Verified sign-off at each step

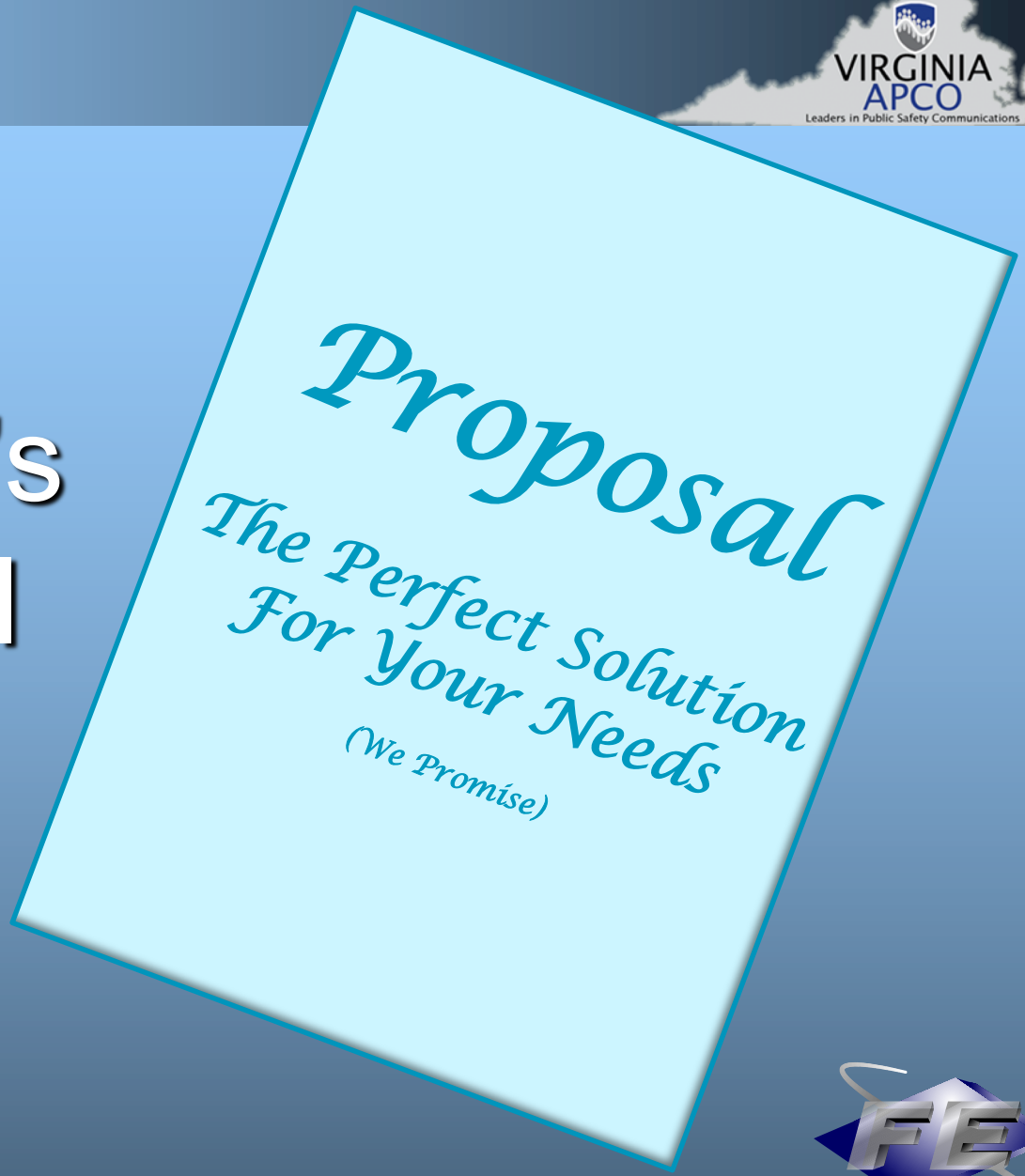


Migration/Cutover

- Migrate to new operation
  - Determine method of migration
    - Gradual transition by groups,
    - Parallel operations needed
- Remove old equipment
  - Are some existing systems needed for interoperability?
  - Decommission old systems
    - Update existing plans, user agreements, support contracts, file construction notices, etc.
    - Dispose of equipment properly!

The Big Mistake

- The current vendor's unsolicited proposal



Don't Jump to an Unsolicited Proposal

- The most common mistake
  - They may know the system best
  - But do not know your needs
- Moves the definition of the project out of your control
  - Generally meets their business needs
  - Not your operational needs
- Often includes unneeded costs
  - Sunk costs
  - Complicating the next round of decisions

DON'T FORGET MAINTENANCE

Ongoing Maintenance

- Corrective maintenance
  - critical for maintaining proper system operation
- Establish processes and procedures
  - Monitoring – 24 x 7
  - On-call technicians
    - Know who they are and how to contact them
    - If vendor provided – defined Service Level Agreements
  - Access to vendor technical assistance (TAC)
  - Spare parts inventory – accurate tracking
    - Parts repair/return process, emergency parts process

Ongoing Maintenance

- Proactive preventive maintenance
  - Processes and procedures
  - Schedule all preventive maintenance
    - Establish time “window” for preventive maintenance
  - Not just for radio system equipment
    - HVAC
    - Power systems
      - UPS, back up batteries, generators, transfer switches
    - Fault monitoring devices

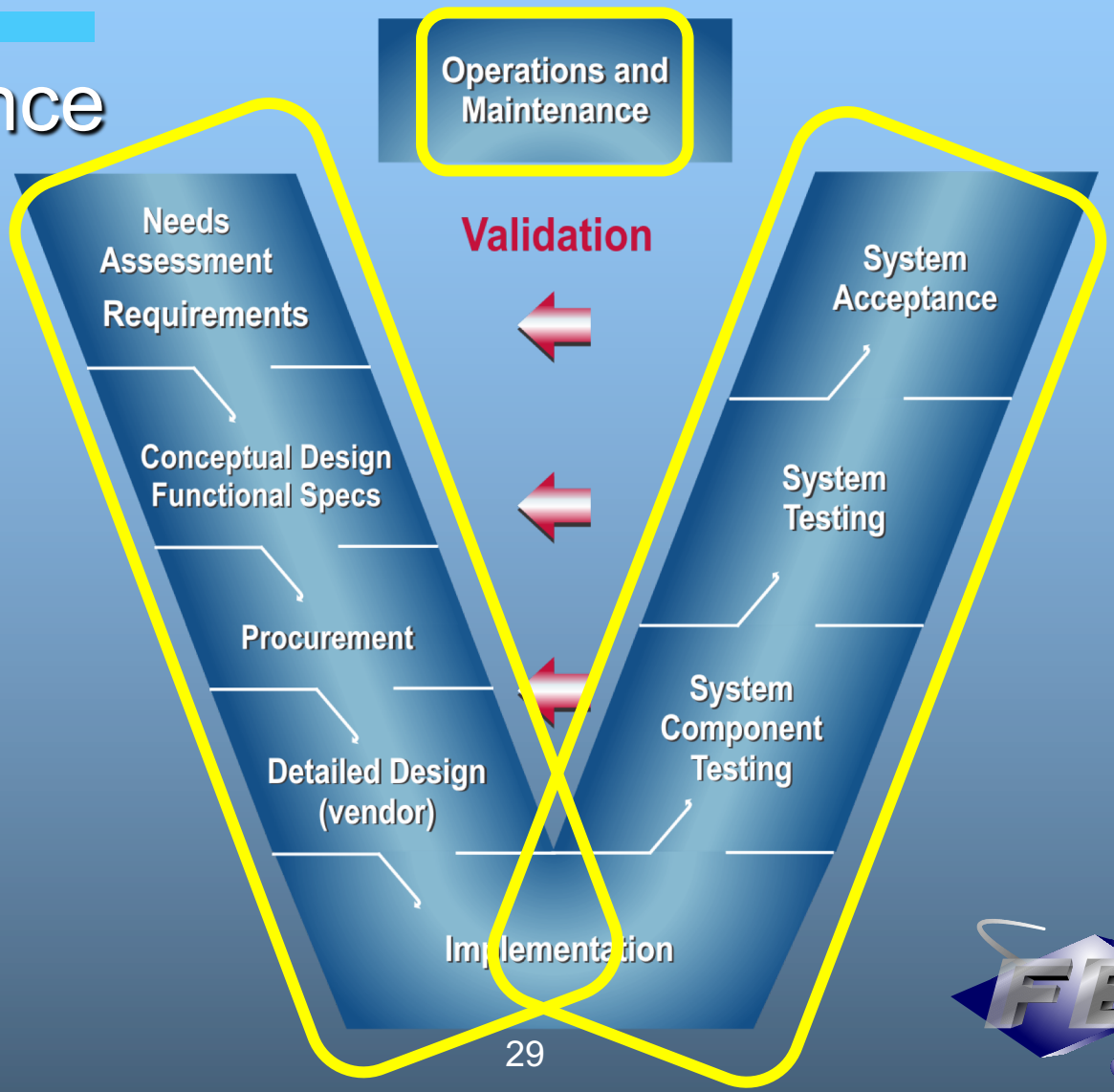
Ongoing Maintenance

- Test all systems periodically
  - Exercise the generator and transfer switch
  - Better to cause minor planned disruptions than experience major unplanned outages!
- Don’t overlook user devices too!
  - Improperly maintained devices can cause system wide issues

DON'T FORGET TO MANAGE THE LIFECYCLE GOING FORWARD

Perpetual Operations and Maintenance

- Operations and Maintenance of the “System”
- A cycle of sub-system procurement projects



Q&A - DISCUSSION

YOUR EXPECTATIONS REVISITED

(How did I do?)

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