Doing More with Less

Precision Strike Association
PEO Summer Forum

08-July-2004
The Objective

Providing the Fighting Edge to Our Forces

Weapon Systems That Are:

Safe
Reliable
Responsive
Effective
Affordable

Providing the “Edge” Requires More than Just Integrating Different Technologies Together
Safety

- Manufacturing
- Handling, transportation and storage
- Training
- Safety footprints
- Safe and arm
- Insensitive munitions
- De-Mil and disposal

The Weapon System Cannot Compromise Personnel Safety
Reliable

- Wooden round (MTBF, MTTR, etc.)
  - Reducing complexity, the number of components and the number of moving parts

- Designed to work in the operational environments
  - Environmental, physical, E³, etc.
  - Transportation, handling, storage
  - Loading, launch, in-flight, etc.

- Designed to be affordably produced
  - Sufficient margins to accommodate material, fabrication, assembly and testing tolerances

**Always Available and Works Every Time**
Responsive

- Available in the numbers required
- Easy and quick to deploy and use
- No time of day or weather constraints
- Shortest possible time-of-flight

Time is Critical to Our Forces
Effective

- Stand-off to increase survivability
- Accurate delivery for increased effectiveness and reduced collateral damage
- Immune to countermeasures
- Lethal

*Precisely Delivering the Desired Impact from Outside Harms Way*
Affordable

- Matching technical maturity, time and risk to deliver the capability within the available funding
- Designed to be affordably produced
  - Sufficient margins to accommodate material, fabrication, assembly and testing tolerances
- Attacking unit production cost drivers
  - Reducing the number of parts
  - Using less expensive parts
  - Reducing the number of manufacturing steps and processes
  - Using less expensive manufacturing processes

*Reducing Total Ownership Cost Starts at the Beginning of the Program*
Disciplined Processes

DFSS/Lean Six Sigma Initiatives/Project

CUSTOMER REQUIREMENTS

REQUIREMENTS DISCOVERY PROCESS & GOALS

· IDENTIFY STAKEHOLDERS' INTERESTS
· DISCOVER UNWRITTEN REQUIREMENTS

STAKEHOLDER ANALYSIS

· CORRECT REQUIREMENTS
· COMPLETE REQUIREMENTS
· CONSISTENT REQUIREMENTS
· NECESSARY REQUIREMENTS
· TESTABLE REQUIREMENTS
· UNAMBIGUOUS REQUIREMENTS
· TRACEABLE REQUIREMENTS
· MODIFIABLE REQUIREMENTS

OPERATIONAL CROSSWALKS

· ENVIRONMENTAL CONDITIONS OF USE
· DISCOVER UNWRITTEN REQUIREMENTS

REQUIREMENTS SCRUBBED & PRIORITIZED

· FEASIBLE REQUIREMENTS
· DESIGN MEETS REQUIREMENTS
· NO EXTRANEOUS FEATURES

QUALITY FUNCTIONAL DEPLOYMENT

· IDENTIFY DESIGN TRADE SPACES (CAIV)
· IDENTIFY POTENTIAL REQUIREMENT CHANGE
· INTRODUCE REQUIREMENTS TRACKING METRICS

PROJECT AUTHORIZATION

CONTRACTOR REQUIREMENTS

· SRR

PRELIMINARY DESIGN

· PDR

CONTINUE DESIGN/DEVELOPMENT PROCESS

MANAGE REQUIREMENTS

CONTINUE DESIGN/DEVELOPMENT PROCESS

Missile Systems
Summary

• True partnering with the customer is essential for a mutual understanding of the requirements, capabilities, constraints, tradeoffs and risks.

• Optimizing the trade space balancing cost with performance, reliability and the concept of operations is critical to success.

• Using disciplined and proven process from start to finish is another key to delivering the fighting edge to our forces.