

APMP

California Gold
Nuggets for Better Proposals
2004 Winter Seminar

SM&A
Success Makers
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Proposal Production and Concurrent Engineering

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- Developing and producing a proposal is just like any new product development – but with a small batch of manufactured units
- Concurrent Engineering techniques have a proven benefit to product development
- So why is proposal production treated by many to be an afterthought?

- Product designs were ‘thrown over the wall’ to manufacturing:

- “...the root of the Citation Jet problem was ‘engineering would design the airplane and throw it over the wall to manufacturing who would take what they got’ and move on to production – a classic failure.” *

- This results in increased cost and time – a precious commodity when time to market is critical

* Philip Siekman, "Cessna Tackles Lean Manufacturing," Fortune, May 1, 2000

- “Manufacturing is often physically separated from product design engineering, treated with relatively low status in many corporations, and expected to manufacture product designs that were ‘tossed over the wall’” *

* Paul D Collins and Frank M Hull, “Early Simultaneous Influence of Manufacturing Across Stages of Product Development Process: Impact on Time and Cost”, *International Journal of Innovation Management*, Vol. 6, No. 1, March 2002

- Concurrent Engineering (CE) is:
 - A systematic approach to the integrated, concurrent design of products and their related processes, including manufacture and support *
 - Sometimes called Simultaneous Engineering, or Integrated Product Development (IPD)

** Institute for Defense Analysis (IDA), "The Role of Concurrent Engineering in Weapons System Acquisition", December 1988*

- The increased role of manufacturing on product design decisions
- The formation of cross-functional teams
- A focus on meeting customer product requirements
- Lead time as a competitive advantage

** John S Lamancusa, PhD, PE, Professor of Mechanical Engineering, Pennsylvania State University*

- GE Aircraft Engines Division – F/A-18E/F
 - Achieved **20%** to **60%** reductions in design and procurement cycle times during the full-scale component tests
 - Reduced cycle times in the design and fabrication of some components from **22 weeks** to **3 weeks**
- Boeing Ballistic Systems Division – MX Missile Launcher
 - Reduced design time by **40%** and cost by **10%** in building the prototype

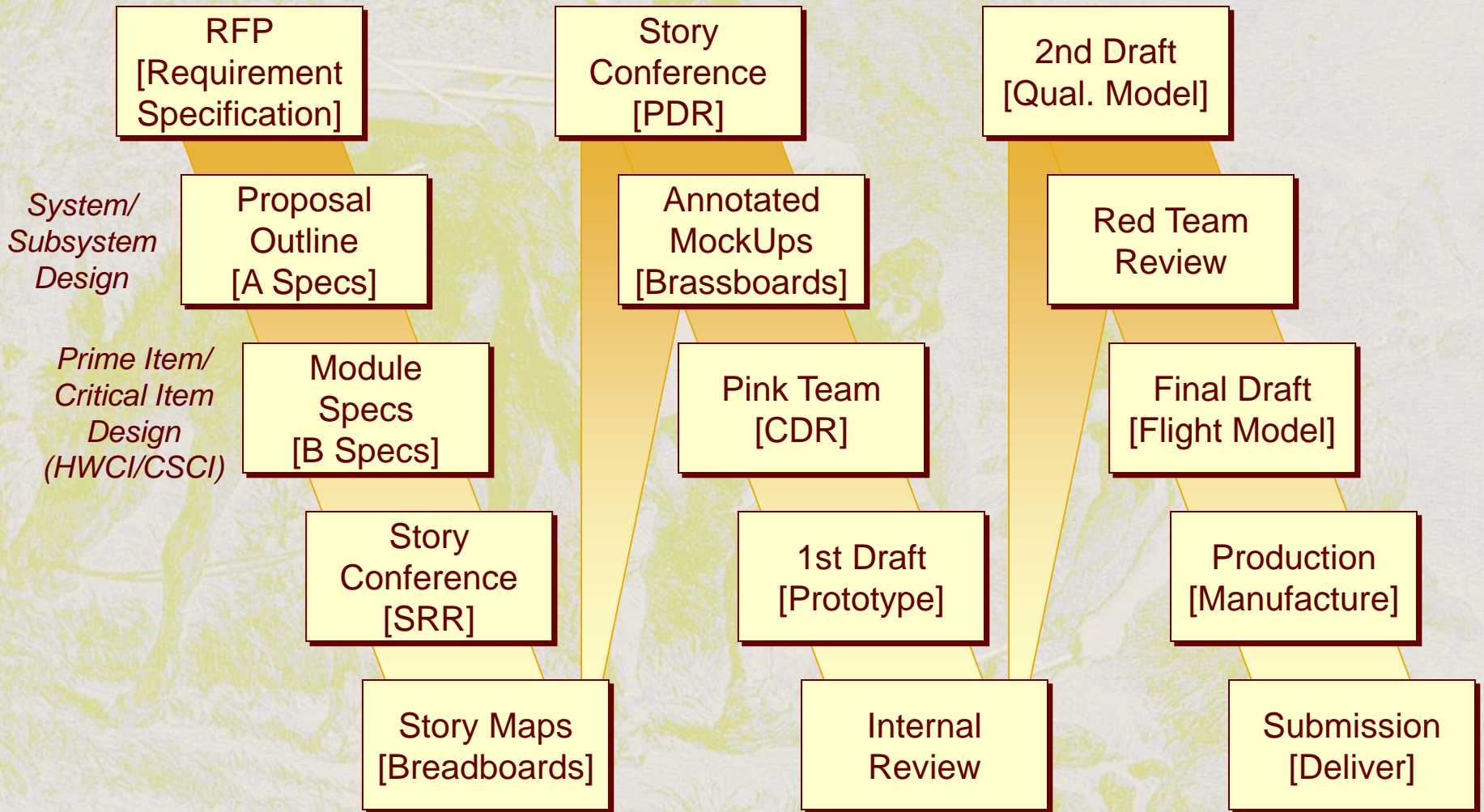
* John Stark, "A Few Words About Concurrent Engineering", 1998

- Integrated Product Teams (IPTs) are cross-functional teams that are formed for the specific purpose of delivering a product to a customer
- IPT members should have complementary skills, and be committed to a common purpose, performance objectives, and approach for which they hold themselves mutually accountable

- IPTs:
 - are committed to program success. The teams are responsible for delivering a product – to field systems for the warfighter
 - include representatives from all the appropriate “oversight” functional disciplines working together with a team leader to ensure successful and balanced programs
- The two most important characteristics of IPTs are empowerment and cooperation – trust’n’teamwork by another name

** Hon. Paul G Kaminski, Under Secretary of Defense for Acquisition and Technology (A&T), DoD IPT Conference, July 20, 1995, Defense Systems Management College, Fort Belvoir, VA*

Development Processes Compared: Proposal vs. Aerospace Product



So...

- Concurrent Engineering, implemented through IPTs, is the accepted standard for almost all major product design companies, with proven benefits for new product design and development
- Proposal development and product development share essentially similar processes
- So why aren't proposals treated the same way as product development?

- The traditional proposal production process has serious weaknesses:

Traditional Practice	Impact
Production is excluded from early activity	Hostile 'us vs. them' mentality
Production is brought in late to save money	Hopeless bow wave at end game
Production has to use available resources	Poor match with proposal needs

- Bring production support into the team at the start
- Profit from team interaction to promote:
 - Creativity
 - Consistency
 - High quality

- Involving the production team during all phases of a proposal development effort:
 - Alleviates critical time crunches for the entire team
 - Unmasks the myth of the rapid turnaround miracle and its unrealistic presumptions
 - Educates team members about the complexity of production activities and their interdependencies with other tasks*
- “Delayed production activities may cause extreme deadline stress, and risk quality...” *

* Suzanne Kelman, “Proposal Production”, *Journal of the APMP*, Spring/Summer 2002

- Document and Art Templates
 - Read the RFP (Sections L & M, or equivalent) and determine formatting and presentation requirements
 - Create compliant and compelling text template for authors, e.g. page size, margins, font
 - Create compliant and compelling palette and art template for graphic artists

● Resource assessment

– PC hardware

- Ensure adequate number of PCs for production
- Ensure each has adequate RAM and CPU
- Check need and availability of CD/DVD-R/W

– PC software

- Identify applications required, e.g. Microsoft[®] Office, Adobe[®] Photoshop[®] and Acrobat[®]
- Test compatibility between applications, e.g. colors, transparencies
- Help desk for team members

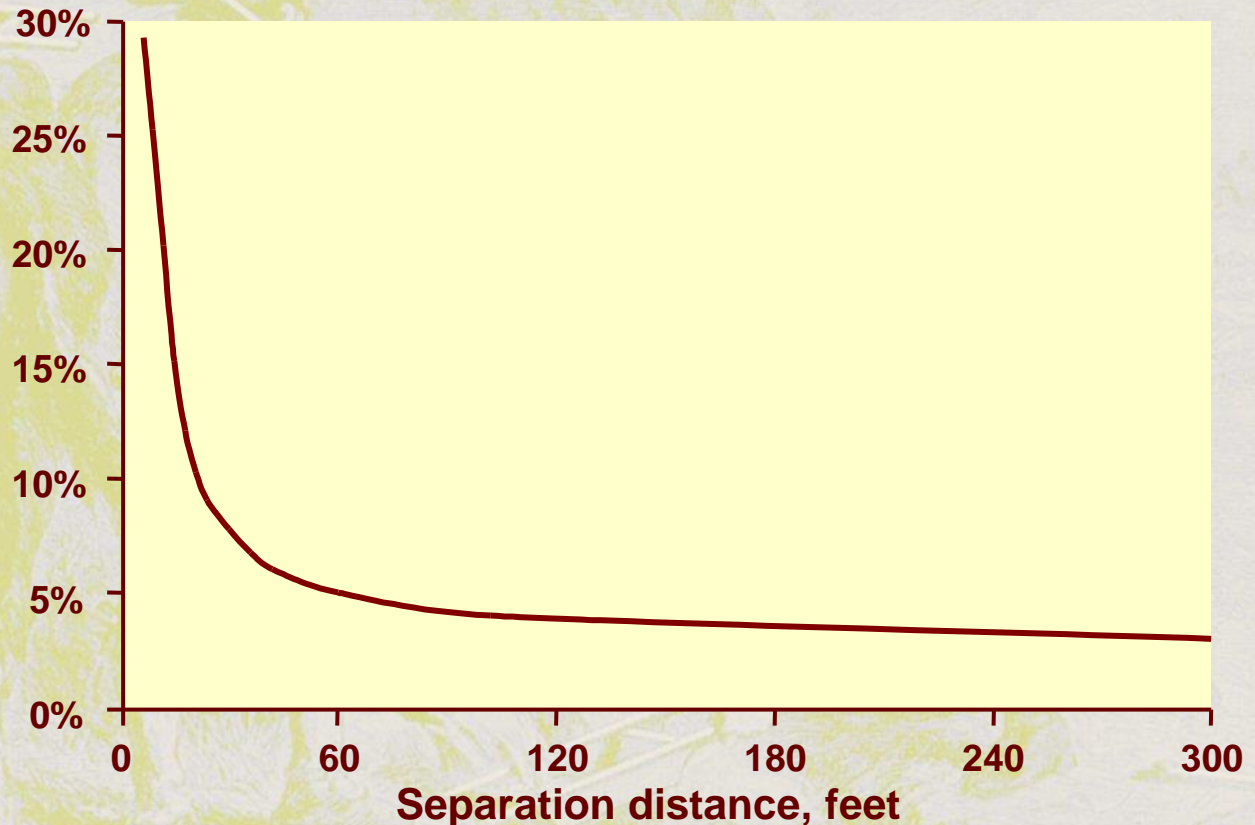
- **Proposal File Management**
 - Set up centralized network drive and file structure
 - Set standard for filenames to avoid version control problems
 - Establish security rules
 - Train team members to work within configured file management system

- Put production with the proposal team in one location
 - Helps to break from old patterns
 - Focuses on proposal development speed
- Remove the internal walls
 - Volume leads, authors, SMEs and production in a wall-less area
 - But put a wall around the proposal!

* Preston Smith & Donald Reinersten, "Developing Products in Half the Time", Van Nostrand Reinhold, 1991

Technical communication is more likely to occur between team members who are located close together

Probability of communicating at least once a week



* Thomas J Allen, "Managing the Flow of Technology: Technology Transfer and the Dissemination of Technological Information within the R and D Organization", MIT Press, 1984

Integrating the Proposal Production Process Is Essential

- Collocated, networked proposal development
- Concurrent production
 - Reduces draft turnaround time
 - Allows more iterations
 - Eliminates bow wave
- Provides timely material for wall
 - Avoids review of obsolete material
- Maintains configuration control through end game

**Proposals are Created by a
Product Development
Team:**

**Production Must be an
Integral Part of that Team!**