

What is a "Concept"?

- ◆ A completely satisfactory solution to the problem
- ◆ How many do you need?
- ◆ Are some better than others?

How can we propose valid Concepts?

- ◆ Only if we explain the requirements a "concept" must meet

How can we compare Concepts?

- ◆ Only if we explain & validate the requirements a "concept" must meet
- ◆ Requirements = Engr Specs

Later, how can we prove the design meets requirements?

- ◆ Have Measurable Engr Specs
- ◆ Do analysis/tests to prove it

How do we define Engr Specs?

- ◆ Target Values

If benchmarking and customer dialog continue, does that really mean the wants, metrics, & target values change as we go?

◆ Of Course!

Feedback - Content

- ◆ Show logic & assumptions
- ◆ Explain "Decisions"
- ◆ Wants = "should" ; constraints = "must"
- ◆ Metrics = ways to measure "wants"
- ◆ Target Values = Engr Specs
- ◆ Identify, analyze all subsystems
- ◆ Summarize why wants, metrics, target values chosen

Feedback - Form

- ◆ Always deliver your best effort
 - Always spell-check, make user-friendly
 - Always read out loud
 - "Sloppy" means unreadable ☹
 - READ DIRECTIONS for format
 - Nice to have TOC with page numbers
 - Context – what is this report for?
 - Embed important Figs & use Fig. #'s (Flip?)
 - Reflection – what did we learn?

Phase 1 – Big Picture

- ◆ Issue – Rept & Presentation produce a small window for judging work done.
- ◆ Process
 - How we got here
 - Where we are now
 - Where we are going
 - How we get there

Phase 1 - Intro

- ◆ Background
- ◆ Customers/wants – updated
- ◆ Benchmarking
 - Lessons, metrics, range of wild ideas
- ◆ Metrics & Target Values – How?, Why?

Phase 1 – Concept Selection

- ◆ Assumptions!
 - Cantilever conservative for stress
 - Simple supports conservative for deflection
- ◆ Flow Chart of decisions?
- ◆ Subsystems & Interactions
- ◆ Critical Metrics, Target Values
- ◆ Easy/Tough Choices & Compromises
- ◆ Safety Factor/Margin Summary

Phase 1 – Audience Issues

- ◆ Coherence is #1 task
- ◆ Graphics (shrink sizes)
 - Re-do sketches
 - Intersperse figures in report body
 - Reverse White on Black images
- ◆ Schedule – Roll up earlier sub-tasks
- ◆ Drawings – Need Bill of Materials
- ◆ Backups – Key to Good Q/A