Feedback – Phase 0

Project Phases

- Affirmed Goals/Needs
  - Scope Definition
  - Key Metrics
  - Technology Req’ts.

- Concept
  - Customer & Technology Basis
  - Concept Plan

- Design Concept
  - Concept Design
  - Engineering Basis
  - Plan update

- Prove Concept
  - Proof of Concept Prototype
  - Path Forward Plan

Assess Customer Wants/Metrics/Specifications

Create/Design Concept; Analyze; Test
- Benchmark Technology

Deliverables:
- Concept
- Concept Plan
- Concept Design
- Engineering Basis
- Plan update
- Proof of Concept Prototype
- Path Forward Plan

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 = Target Values

MEEG 3M Performance Guidelines

<table>
<thead>
<tr>
<th>Phase 0 – Design Requirements</th>
<th>MEEG 3M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior Design (for reference)</td>
<td>Program</td>
</tr>
<tr>
<td>- Customer goals and needs were affirmed, and a set of metrics including margins were developed. Project scope was defined and general concept direction were developed.</td>
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<tr>
<td>Design Basis</td>
<td>Develop the relevant criteria for the design, establish a system framework for the system’s design, and define user of performance/metric metrics. Establish the benchmark and market technology have at least 3 different types of reference sources. Specify character develope that are potentially competitive with benchmarks.</td>
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<tr>
<td>- The phase was exercised in a “test and the effective manner. Successful measures were validated, integrated, and managed effectively, and 1) decisions were made and actions taken with established objectives, 2) ability to “see” the system’s performance is demonstrated, and 3) in progress, and strategy development for commercial application.</td>
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<td>- The effectiveness of the effort was achieved by the ability to engage and integrate the stakeholders of the system and/or systems. The effort through assessment, the ability to establish, and, in the case of a commercial application, a competitive performance is validated.</td>
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<td>- The ability to communicate in online logistics.</td>
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Functionality and quality of the design. | Deliver project plan with explanations of Design Schedule, 5 & MSO. |

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- Requirements = Target Values
Later, how can we prove the design meets requirements?

- Have measurable Target Values
- Do analysis/tests to prove it

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

- Of Course!

Feedback - Content

- Wants = “should”; constraints = “must”
  - Safety = Constraint
  - Performance = Want
  - Cost = Want
- Metrics = ways to measure “wants/ constraints”
- How does benchmarking lead to Metrics & Target Values?
- Summarize why wants, metrics, target values chosen & how they drive the design!!!
- Show logic & assumptions/Explain “Decisions”
- See MS Project tutorial for making Gantt Chart for scheduling, explain task order

Feedback - Form

- Always deliver your best effort
- Always spell-check, make user-friendly
- Always read out loud to catch errors!
- READ DIRECTIONS for format
- Context – Background, Key Issues?
- “Sloppy” means unreadable @ (Use Writing Center)
- Embed important Figs & use Fig. #’s (Avoid Page-Flipping by Reader)
- Use photos/graphics whenever possible
- Check “Agendas” vs. “Minutes”

UDesign Issues

- Do market research & strategy
  - What’s wrong with current products? Is it really so?
  - Can a new product be viable? More ergonomic?
- Use real people for customer reps
  - Get sanity checks often
- Derive key Wants, & explain
- Benchmarking
  - Derive Lessons Learned from benchmarking
  - Analyze benchmarks for metrics & target values
- Metrics & Target Values
  - Derive key Metrics from key Wants, & explain
  - Make metrics graphs for target values & tradeoffs
  - Which metrics DRIVE the design? Are they measurable?
  - Which metrics DRIVE which subsystems?
- Concepts
  - Select a best Benchmark Competitor Concept
  - Derive Candidate Concepts from key Metrics, explain benefits/tradeoffs

Writing Issues

- Make it professional!
- Include
  - Title Page, TOC, Page #’s
  - Use many Graphics
  - Figure #’s & Names & Callouts in text
  - List of References (Web, Books, People...)
- Say “based on”, not “based off of”
Management Issues

- Assign 1 person as overall Editor
  - Read the entire report out loud
- Assign 1 person for Quality Control
  - Be sure all required elements are included
- Find a Manufacturing Consultant
  - Drives all concepts
  - Start with Steve Beard
  - See Books on reserve

WebCT Issues

- Use correct levels
- Use required doc names so I can download

Peer Evals

- Follow Directions!
- Evaluator’s last name
- Member’s last names, in alpha order
  - Rating (0-100)
  - **JUSTIFICATION FOR RATING!**
- On Time!
- 5 Bonus Points next time for each complete error-free team