Presented To: 3rd Annual CMMI Technology Conference and User Group

Impacts of the CMMI

November 19, 2003

Objective

- Contribute to the body of knowledge on the impacts of the CMMI
- Focus on ways to quantify
  - Process baseline
  - Progress
- Explore traditional and non-traditional measures

Agenda

- Breadth of projects covered
- A baseline for pre-CMMI process behavior
- Training feedback
- Current project monitoring and control measures data
- Qualitative Impacts

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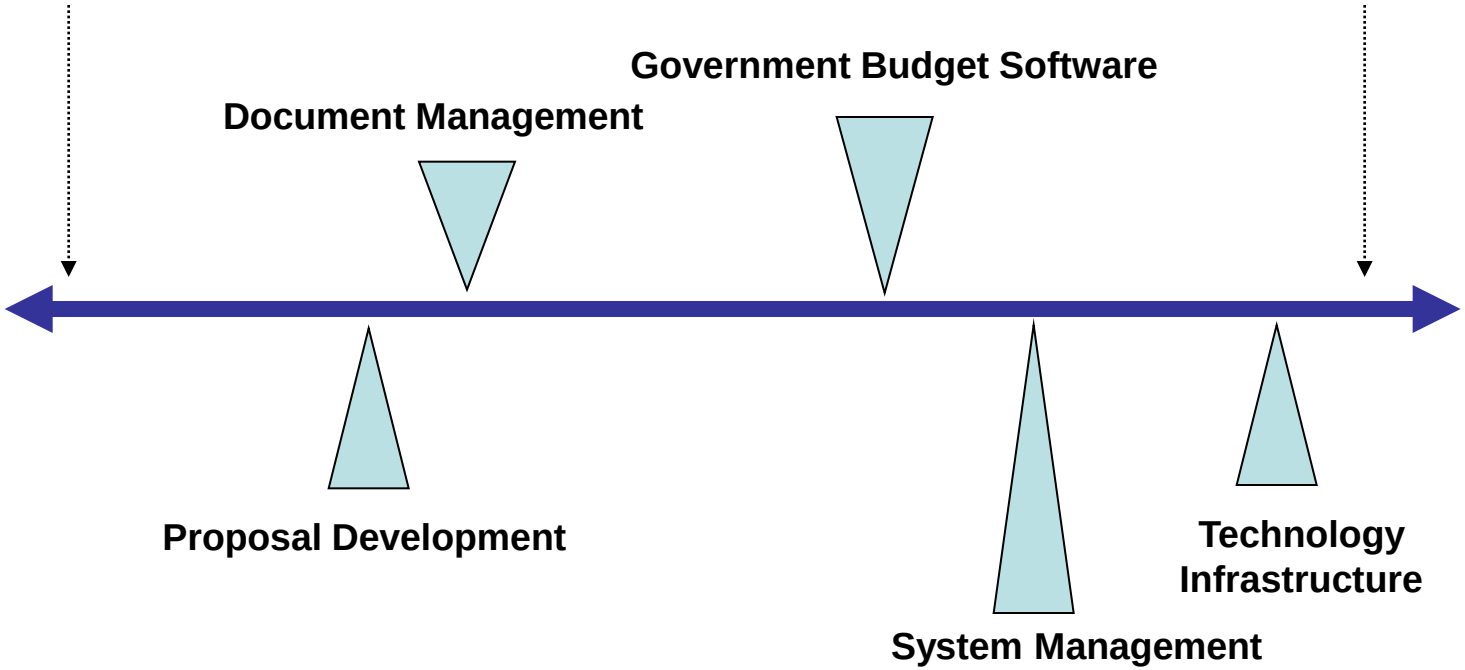
Breadth of Projects Covered

- *Less Systems Engineering*
- *Fewer technical skills*
- *Less complex*

- *More Systems Engineering*
- *More technical skills required*
- *More complex*



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Establishing a Baseline for Process Implementation

- Audits
- Lessons Learned
- Ineffective processes impact
- *Preliminary results, no statistical significance*

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Pre-CMMI Process Baseline

- Projects already functioning at 33% average compliance
- Projects 67% non-compliant

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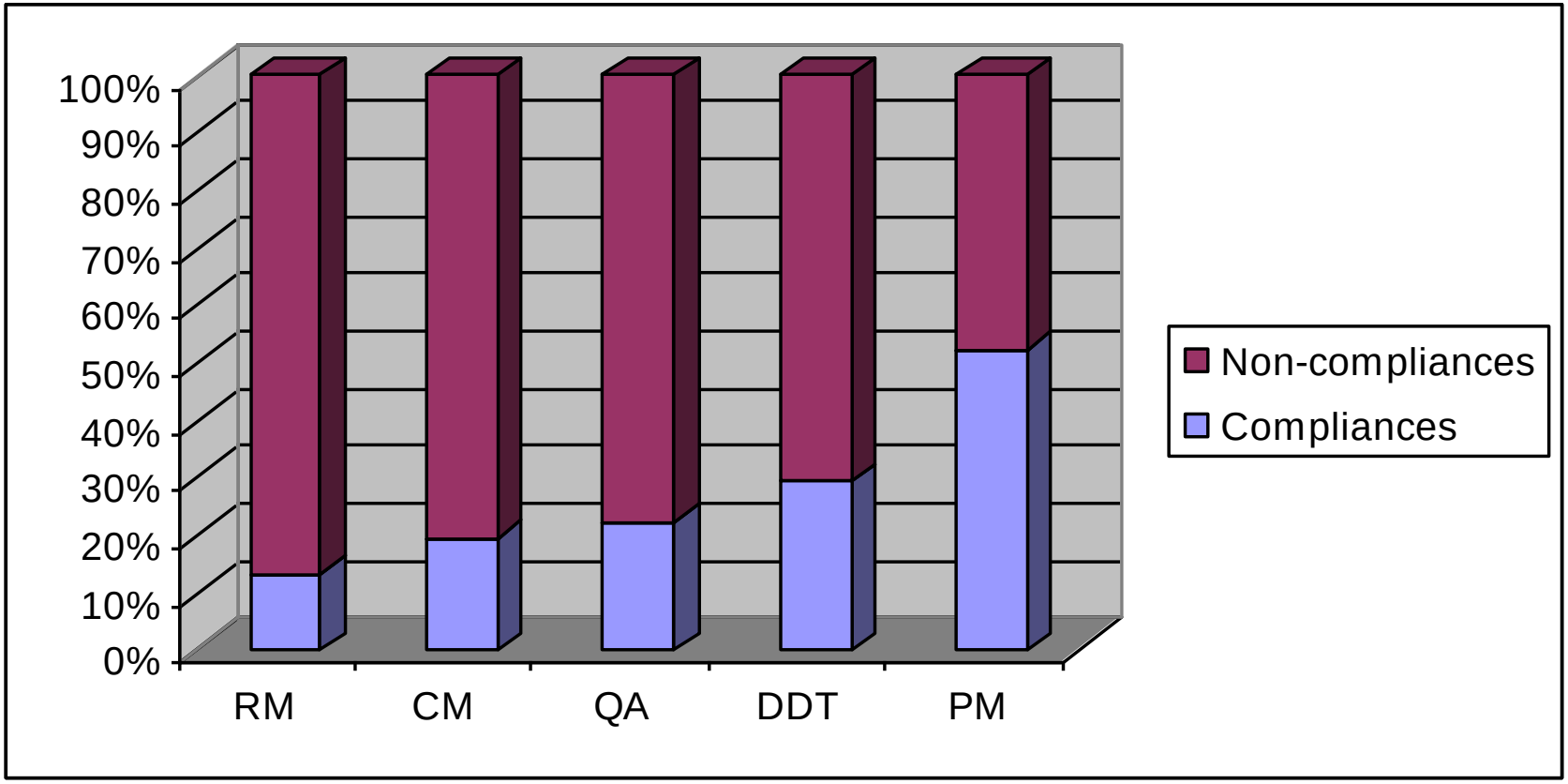
Pre-CMMI Audit Results



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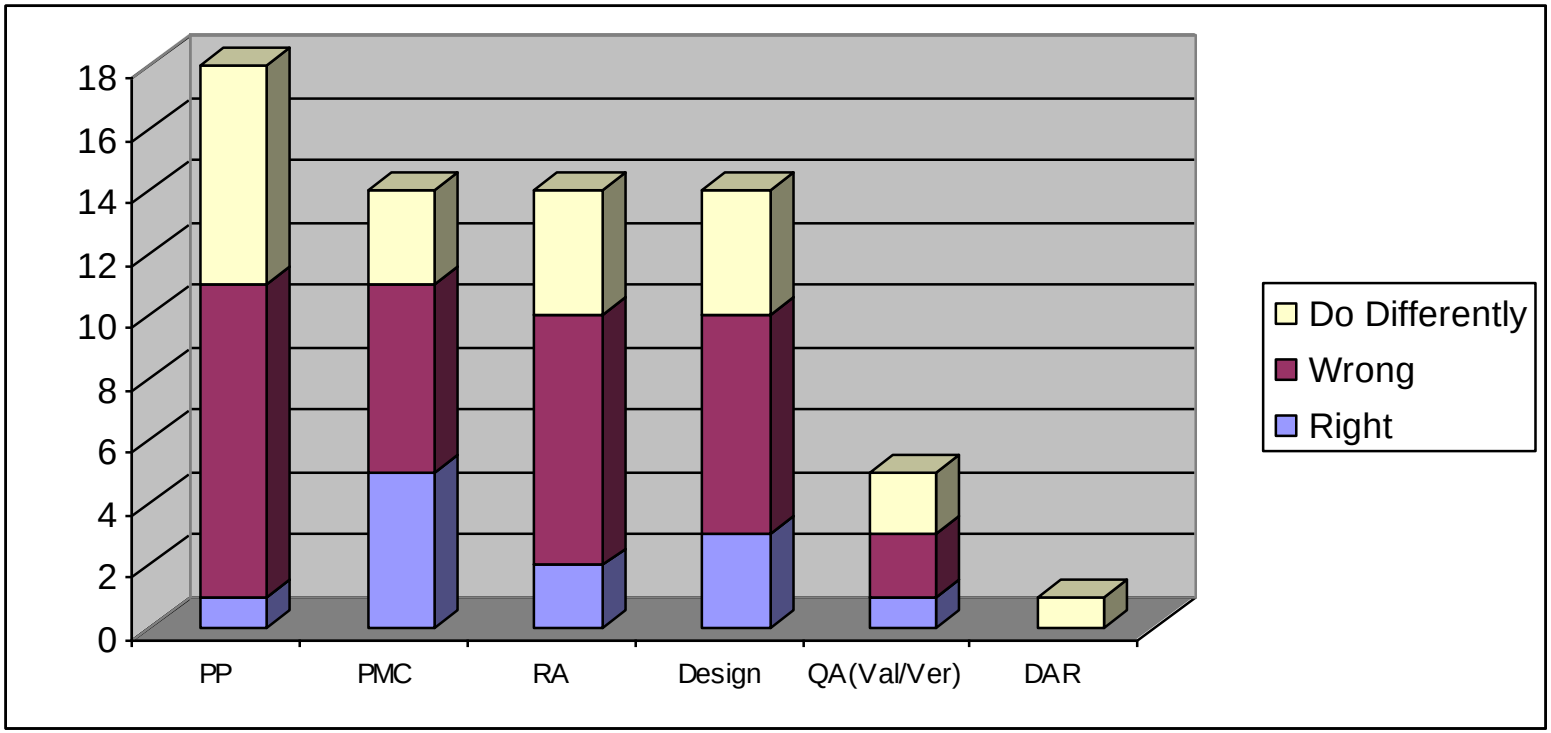
Lessons Learned

- Objectives
  - Process effectiveness
  - Impact of ineffective processes
- Questionnaire and meeting
- Cross walk to CMS Defined Process ETVXs

Lessons Learned Results



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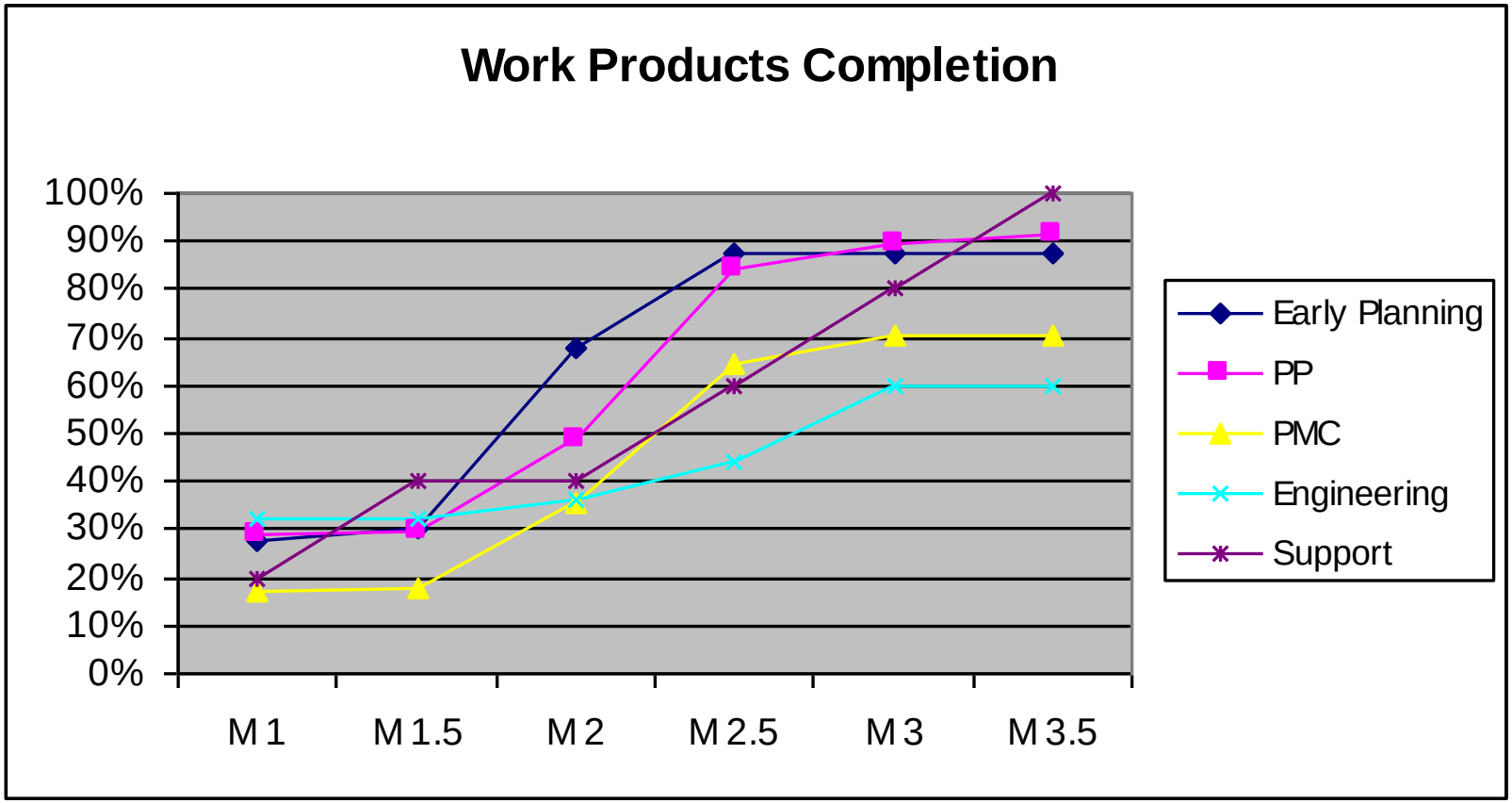
LL Process Ineffectiveness Impact

- 50% of any cost overrun
- 25% - 50% of any schedule overrun

During CMMI Effort

- Compliance tracked every two weeks
- Sample set = each project type

Progress during PI Effort



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Training Questionnaire

- 13 questions
- Example of results for:
  - Perceived value of training to Managers
  - Time spent on training
  - Value of company-sponsored training

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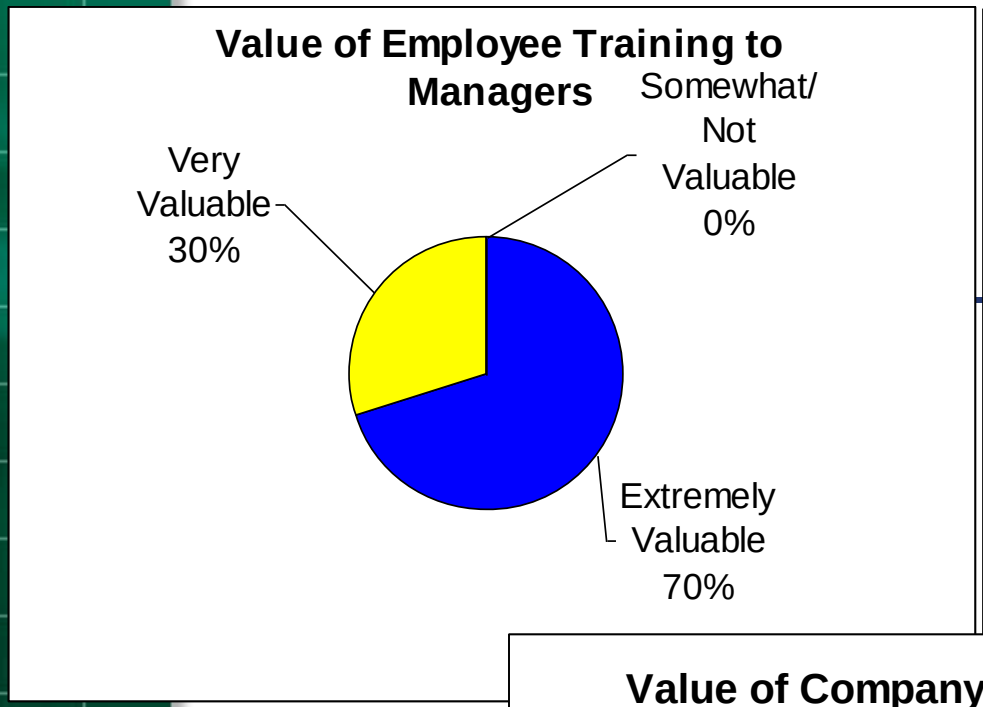

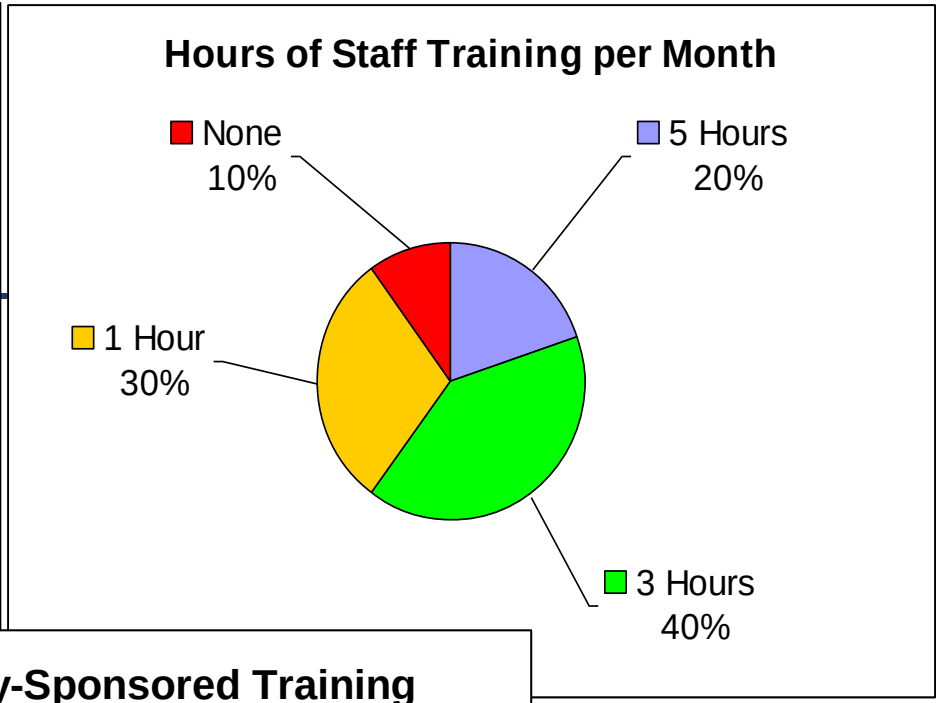

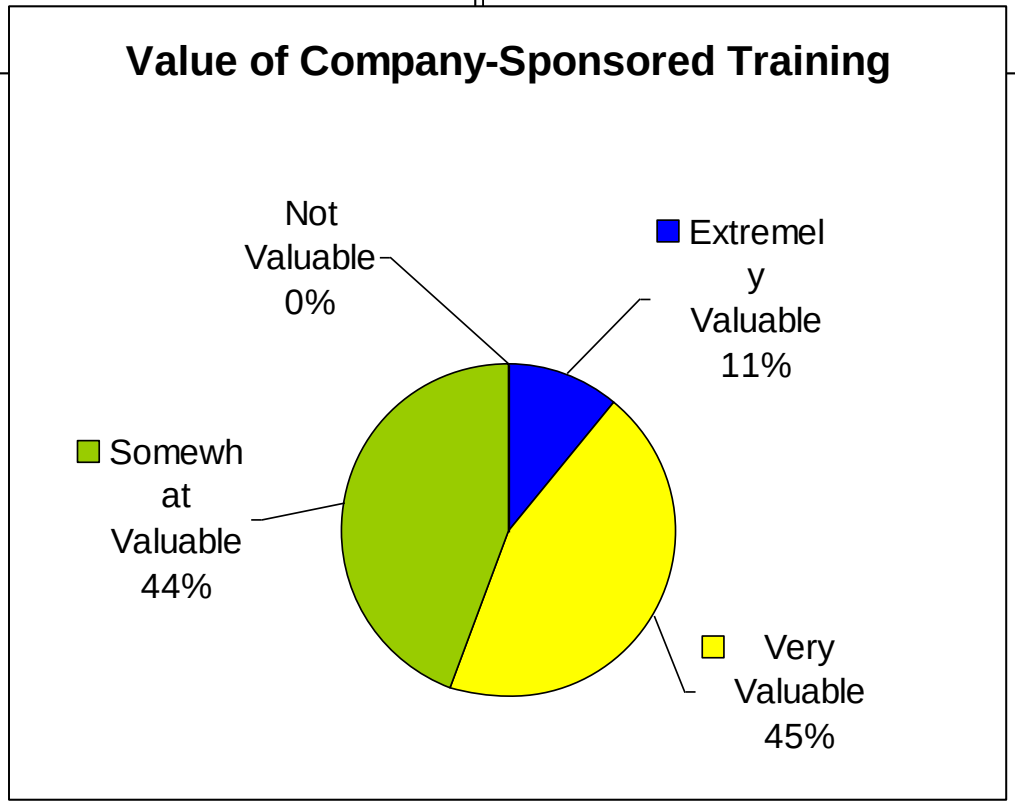

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Post-CMMI Results

- CMMI Class A SCAMPI Appraisal results
- Audits and lessons learned

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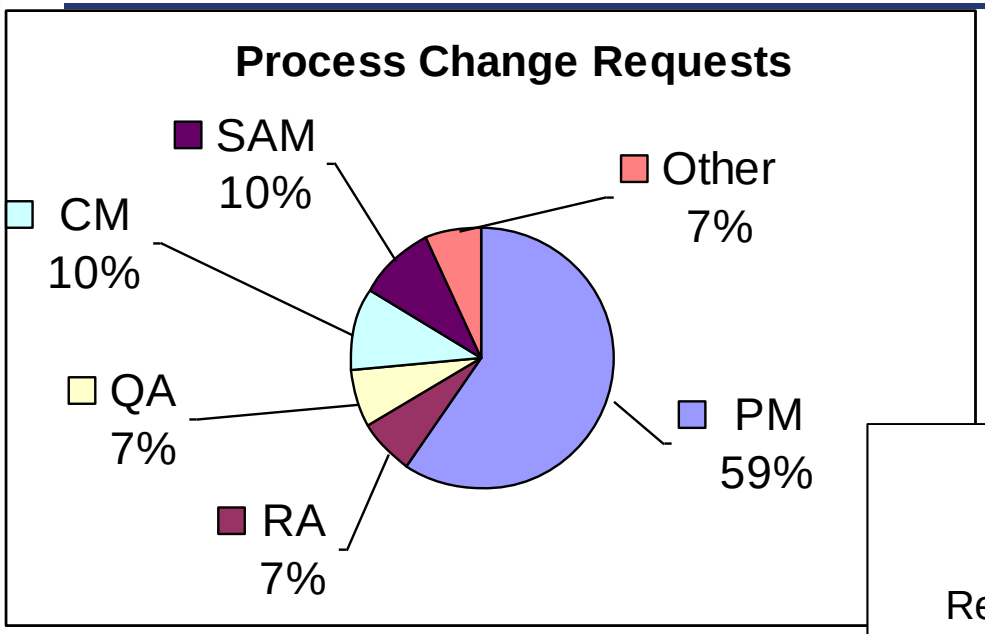
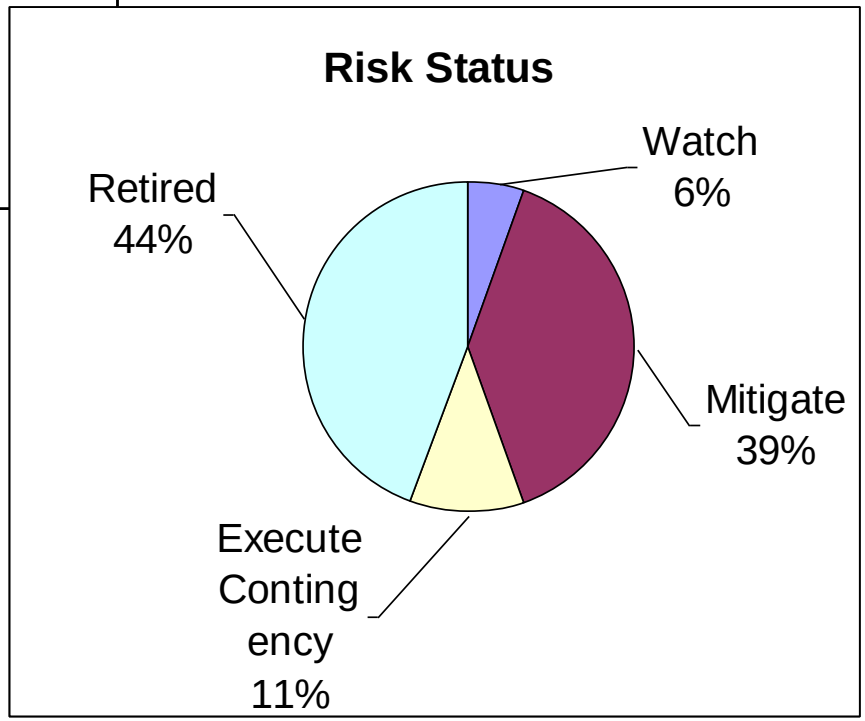
Current PMC Measures

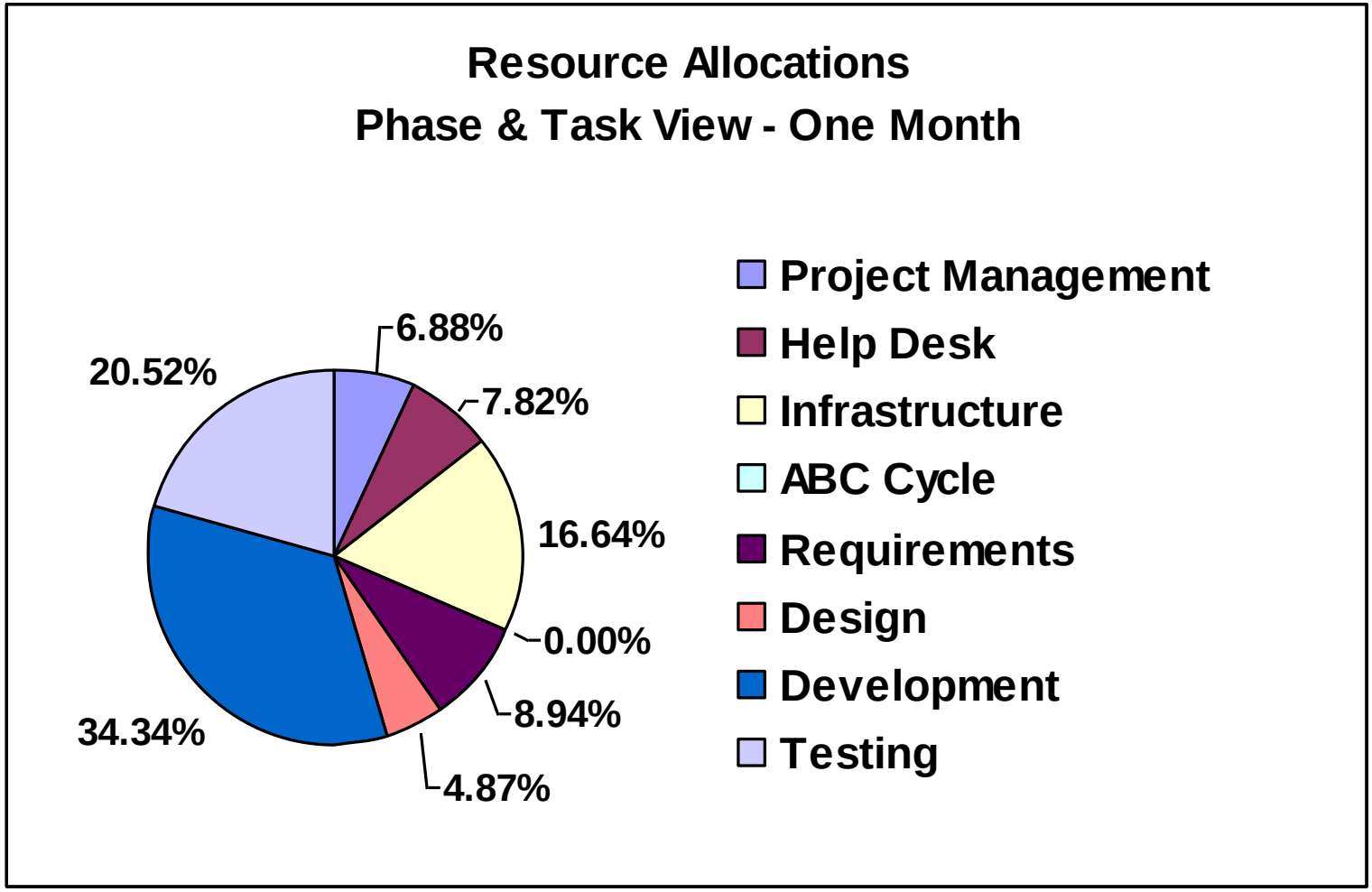
- EPG
  - Process Change Requests
  - Risks
- Project
  - Resource allocations by phase for a month
  - Resource allocations over time
  - Overtime or ‘grief’ index

PCRs and Risks





Project Measures



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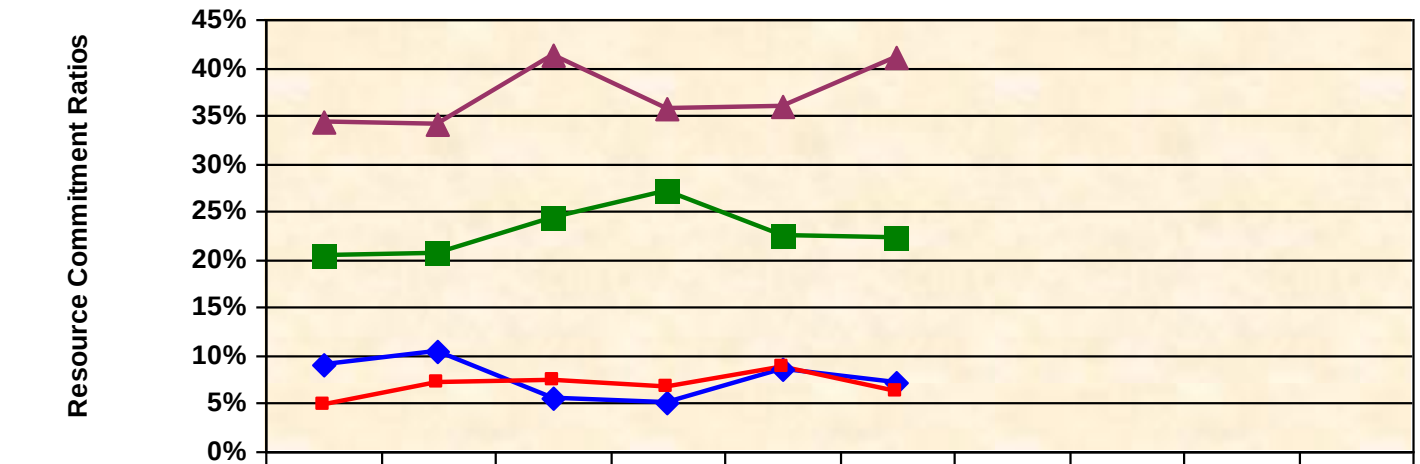
Selected Phase Measures Roll-Up



	3	4	5	6	7	8	9	10	11	12
Requirements	8.94%	10.43%	5.56%	5.02%	8.64%	7.26%				
Design	4.87%	7.09%	7.39%	6.73%	8.83%	6.27%				
Development	34.34%	34.19%	41.31%	35.74%	35.85%	41.16%				
Test	20.52%	20.65%	24.37%	27.18%	22.42%	22.18%				

Month - 2003

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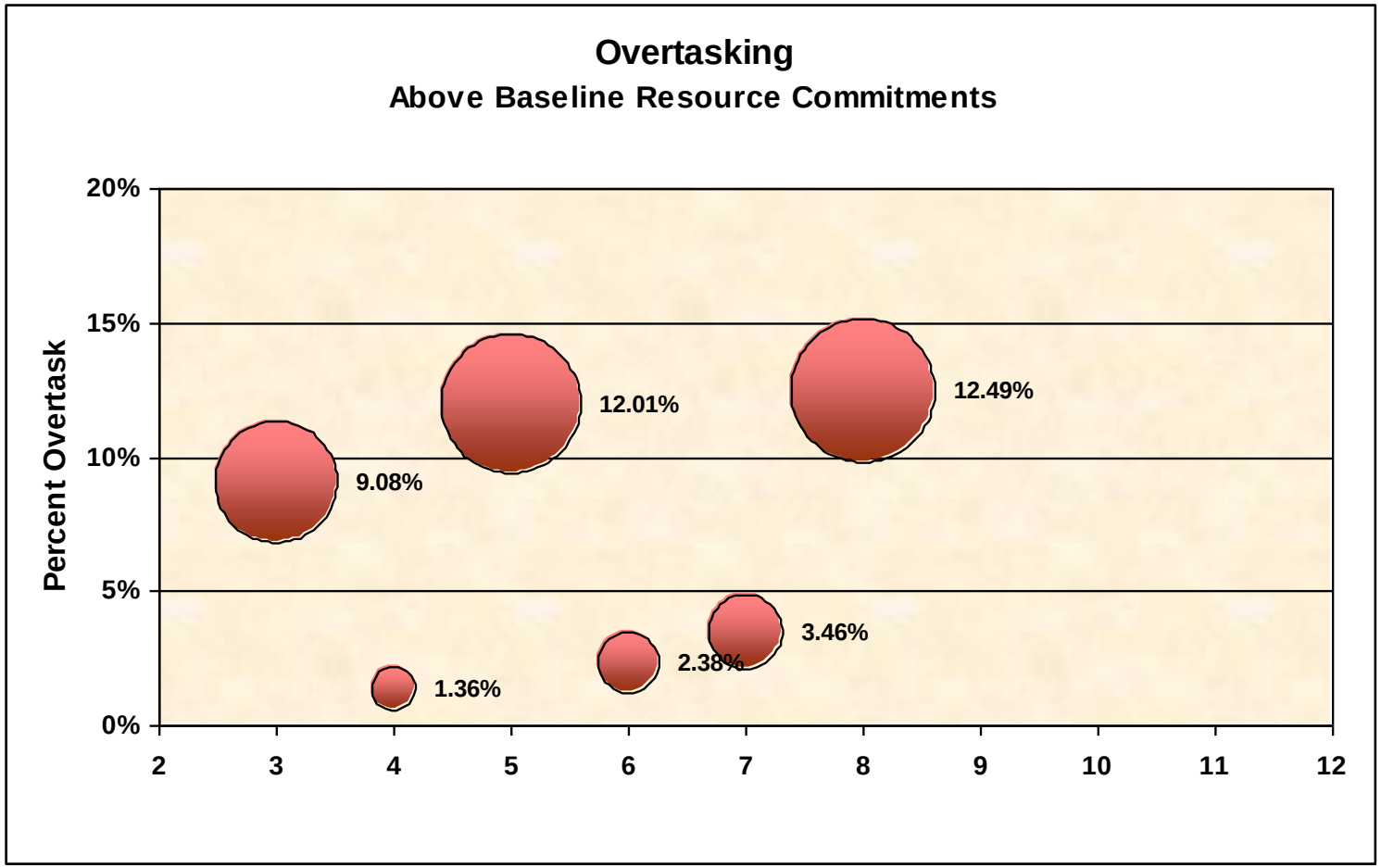
Grief Index



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Results

- Ineffective processes contribute to cost and schedule overruns
- Lack of planning affects other process areas
- Process training is highly valued

Results of Data Analysis

- Require additional 25% of staff training by EOY
- Planning sets the stage
- Initiate tasks and resource tracking on support organizations

Qualitative Impacts

- Potential increase in revenues and profits: 50%
- External perception of CMS project management capabilities increased by a factor of 3
- Risk Management- insight from audits improves ability to track risk status

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Qualitative Impacts

- Less sense of the CMMI as ‘bolted on’
- True institutionalization of CMMI compliant processes as ‘the way we do business’
- Increase in use of best practices across the organization

Questions?

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List of Acronyms

- AI – Action Item
- CM – Configuration Management
- CMMI – Capability Maturity Model Integration
- DAR – Decision Analysis and Resolution
- DD&T – Design, Development and Test
- EPG – Engineering Process Group
- PCR – Process Change Request

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List of Acronyms

- PMC – Project Monitoring and Control
- PP – Project Planning
- QA – Quality Assurance
- ROI – Return on Investment
- RM – Requirements Management
- TS – Technical Solution

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