

# **CBDIAF Meeting January 2008**

## **Feedback: Operations and Maintenance Sector**

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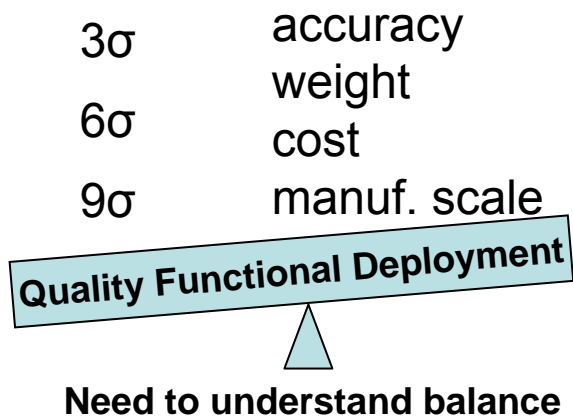
# Round-Table Discussion

# Quality: Who Could Disagree...(What Does It Mean)

How Important is Quality?

Very important!! Who could disagree  
Large Co. CEO quote “I don’t want to see an article in the news about our company on this!!”

Is there a Cost vs. Quality Trade-Off?



- Yes...but not what you think
- Cost of poor quality – “A key reason for our quality program is to save money
- Quality programs can cost if you don’t understand what quality means – understand your CTQ’s!
- Understand that cost is sometimes a key CTQ
- A properly constructed quality program reduces cost
- Quality program doesn’t mean perfect...but you need to know and control metrics

What are the Consequences of Non-Conforming Products?

- Rework, high cost, lost programs...
- COPQ can be a major controllable cost

**Good Quality Programs Reduce Cost!**

## Quality - Continued

What are Roadblocks to Quality?

- Contractor and Government don't have mutual understanding of critical to quality (CTQ) metrics
- Don't plan ahead well enough
- "Too busy"
- Misconception that quality adds cost – too much paperwork

Should a Formal Quality Program be a Requirement in Contracts?

Two answers:

- "Yes"
- "No...what do you mean by quality program?"
- Recommend – yes but be careful not to generate non-value-added steps
- Function more important than checkboxes
- Contractor defined will save money – approve up front

# Quality - continued

Has Industry Increased or Decreased its Quality Infrastructure?

- General – beyond CBNE – YES in US and all countries (Some are still behind but improving) Look at your car
- Industry generally understands cost of poor quality (COPQ)
- Programs for six sigma, velocity engineering, lean manufacturing, etc have added to quality
- Biggest gap: understanding and agreeing on critical to quality issues
  - We gave you what you asked for
  - We needed to make the lowest bid
  - We get paid by how many units ship
- Embrace the general industry trends – they are designed for profit (and lowest risk!)

**Quality: Need to understand value, agree on CTQ's**

# Quality of Low Rate Initial Production

What are the Reasons for Quality Problems in LRIP?

- “First of its kind” surprises that nobody anticipated eg material problems
- Poor understanding of critical to quality (CTQ) metrics
- Waiting for manufacturing/operation to start quality program
- Change management not well understood
- As-built different from reviewed drawings
- Bad decision made and nobody willing to change direction
- See above – rework gets more expensive as LRIP is approached – often don’t make changes soon enough.
- Manufacturing engineering not brought in soon enough. Transition from prototype.

Are these Quality Issues Unique to CBD Products?

- Issues and root cause are the same for CBD as in other industries
- Cost in CBD can be much higher – change might be more difficult due to high hazard level

# Quality of Low Rate Initial Production - continued

What can Industry and Government do to Improve LRIP Quality?

- Industry has put a lot of effort into this transition; this is key to control of product cost and we have had some ugly surprises
- Successful industry programs use a stage-gate approach, with formal reviews at each gate
- TRE process is outstanding way to find LRIP issues and this is getting better
- Must involve end user and **manufacturing engineers** early in the development program
- Separate quality manager from management chain-of-command
- Early identification of risk areas - pursue parallel routes for these to establish and integrate a plan B capability

# Contracts:

Are Contracts the Right Size and Type for Competition?

Yes

Are Contract Awards Fair?

Yes

Are Contracts Administered Effectively?

Yes

Do Contracts Protect Both the Company and Government?

Yes

What Might Improve the Contracting Process?

- Timeliness
- More certainty & definition around actual work scope (multiple IDIQ contracts with uncertain value)
- Staged, expedited process to help reduce B&P cost, improve ability of new companies

# Statements of Work:

Are Statements of Work  
Clear and Specific?

Yes

Are there Inconsistencies?

Yes/sometimes but usually not significant

What Improvements  
Could be Included in  
Statements of Work?

No response here

# Independent Research and Development Efforts in the CBD Sector:

Does the Size of the CBD Market Enable industry to Maintain a Robust IR&D Capability??

- Yes
- Market study shows about a \$5 -10B aggregate space over 5 yrs for detection, air management, and “filtration”
- Large enough for to participate but not room for a lot of large players
- Primary customer...one way or another is US gov. ROW may be about same size.
- Very much uncertainty about size and scale of this market – makes internal development more difficult
- Important growth area sufficient to invest substantial IR&D

How Does Government S&T Investment Compare to Industry IR&D?

- O&M areas don't have high investment
- Other areas...gov invest is very high but don't have direct comparison
- Note DARPA and other agencies have significant impact on S&T

# Sector Report

- **Feedback on any increase in the speed of the clearance:  
Getting much better based on very limited information**
- **Sector desire to conduct demos at the Joint CBRN Conference  
Didn't find interest in O&M but lot of interest in other areas!**
- **Feedback on Va. Beach format. Good format  
very effective meeting – one of the best**