Department of Navy Kaizen Event Overage Specifications & Standards

Jeffrey Allan
Navy DepSO
Office of the Deputy Assistant Secretary of Navy (Logistics)

Navy Caucus Refresher
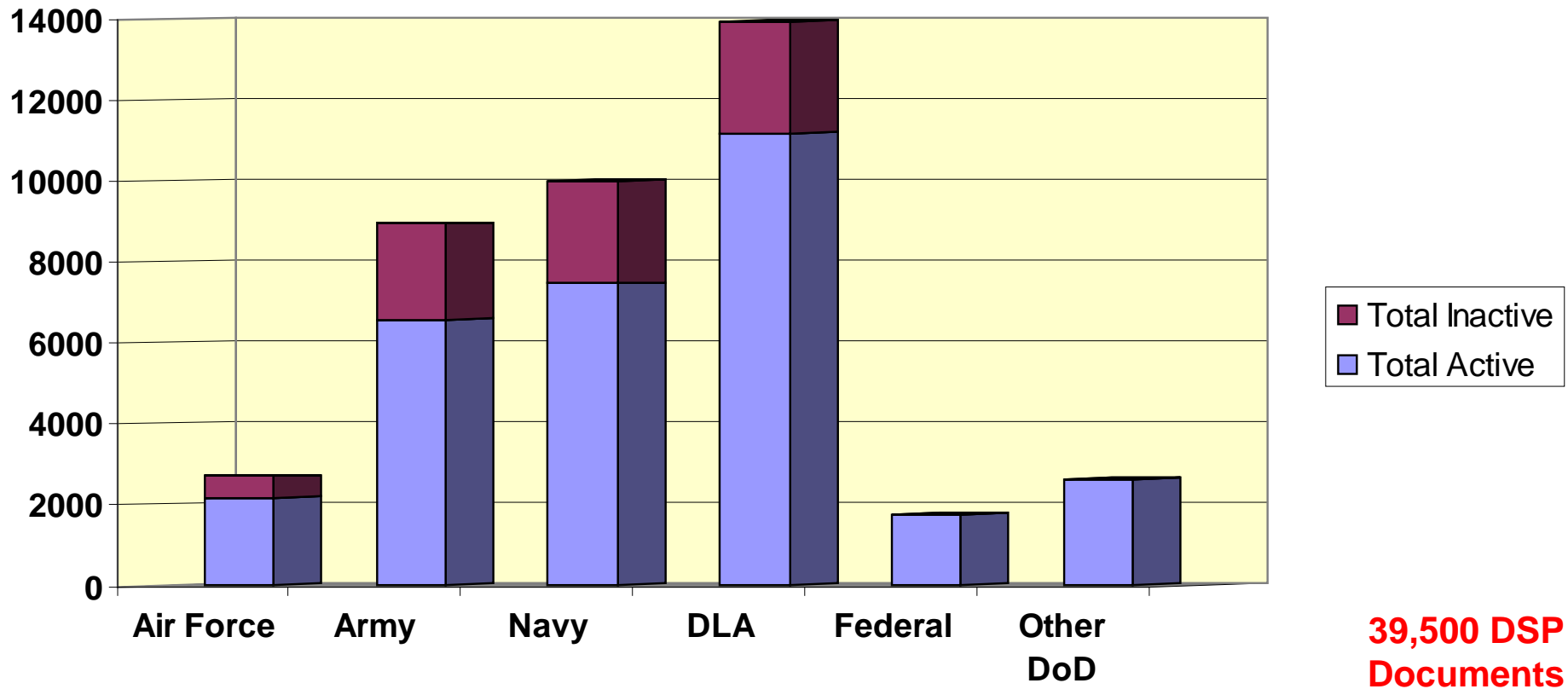## (From 2006 Standardization Conference)

ENVIRONMENT

- **Limited Resources For Managing DSP Documents**
  - *Navy Standardization Budgets Less than 50% of 1996*
  - *Resource Increases Not Anticipated*
    - **Competition for Resources --- Emphasis on Defense Programs**
- **Significant Workload**
  - *~ 10,000 Dept of Navy Prepared DSP Documents*
    - **Plus "Review" Interest in ~ 4,400 Documents Managed by Other**
  - *DoD Priorities Undefined … Services/SYSCOMs Establish Own*
    - **NAVAIR … Safety> Readiness > Performance>Other**
    - **NAVSEA … Quantitative Scorecard By "Technical Authority"**
- **Perception … DSP Procedures Need Re-Examination**
  - *Non-Value Added/Marginal Procedures Need To Be Streamlined*
  - *Few "Meaningful" DSP Metrics*
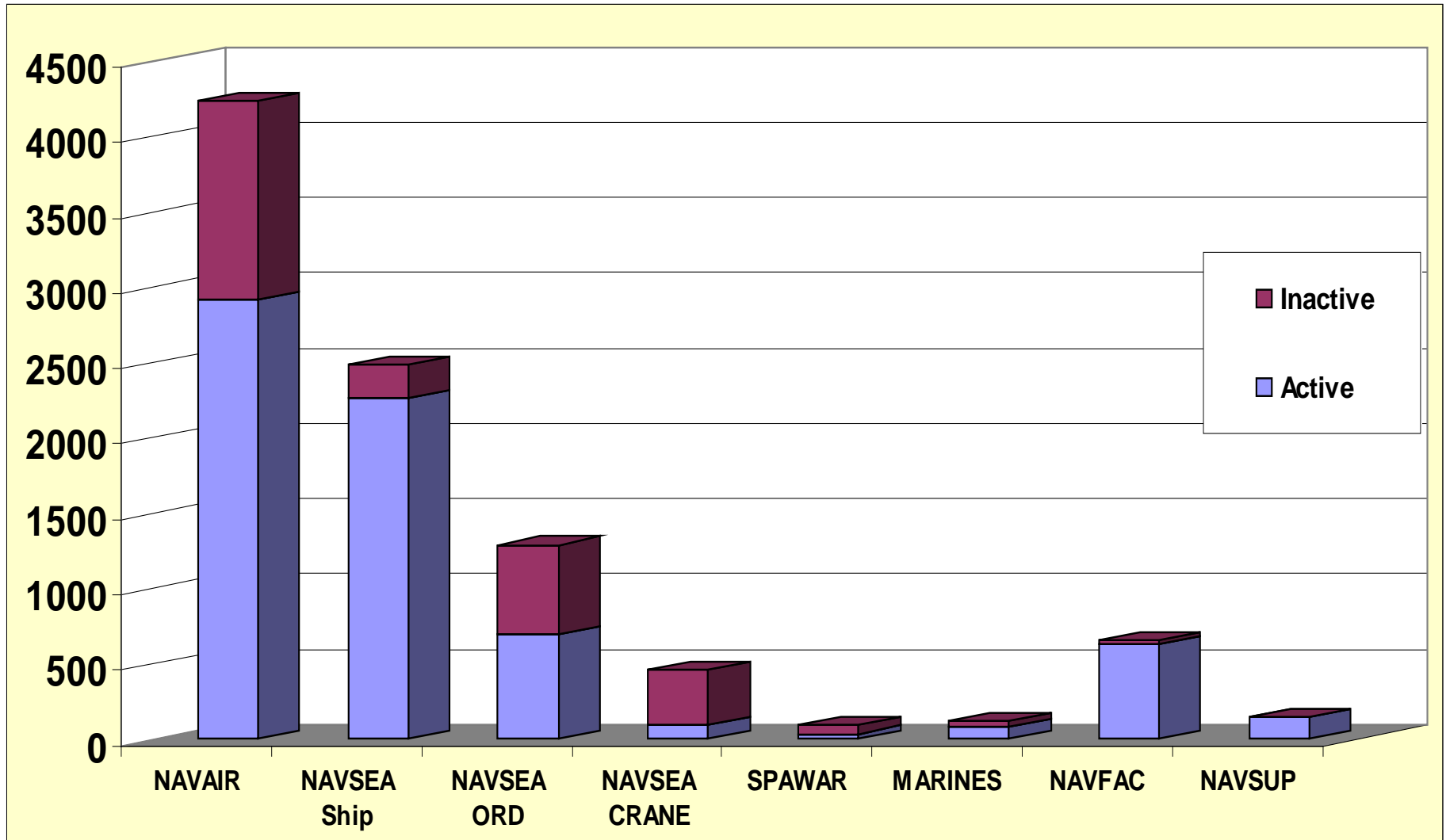   - **Cost, Use/Value/Importance to User, Quality/Problems, etc**

"Spec Ownership" Responsibilities

Preparing/Adopting Activity Responsibility

39,500 DSP Documents

Specifications & Standards
Preparing/Adopting Responsibilities

2006 Standardization Conference
Department of Navy Caucus Proposal

- **1 or 2 Navy-Led Lean Six Sigma (LSS) Projects**
  - *Navy Standardization Executive (DASN(L)) to Champion*
  - *Process/Issue Selection by Dept of Navy*
    - *"Int'l Stdzn Agreements" (DASN(L) Offer)*
    - *"Overage Document Review" (Navy Caucus Offer)*
    - *DSPO To Be Invited (Voice of the Customer)*
  - *Black-Belt Managed*
  - *Current Procedures Not Sacrosanct*
    - **Candidates For Evaluation/Modification/Elimination**
    - **Pilot Implementation With Waivers to Procedures (if necessary)**
  - *DSC Evaluation Within 12-16 months For Broader Implementation*
  - *Status Briefing at 2007 DSP Conference*

- **Deliverables:**
  - *Candidate DSP Priorities or Prioritization Approach*
  - *Proposed Procedural Changes*
  - *Proposed Meaningful Metrics*

Overage Document Review Requirement Background

- **DoD 4120.24-M, Chapter 5.9 Requires Validation, Revision, or Cancellation of DSP Documents At Least Every 5 Years**
  - *Ensure Specs &Standards Are Needed, Current & Correct*
  - *Broadly Applied (e.g., Applies to Dynamic vs. Stable Technologies)*

- **Impact on Dept of Navy**
  - *Resources Inadequate To Comply With Requirement*
    - **~34% of Dept. of Navy Documents are "Overage"**
    - **Backlog Will Grow Annually … Resources Likely Won't**

- **Is "Calendar-Based" Approach Best Way To Achieve Objective?**
  - *5-Year Requirement Appears Arbitrary*
  - *Alternatives (e.g., Risk-Based, User Feedback, etc) Worth Exploring*
  - *Need to Understand Primary Drivers of "Overage" and Impact to Fleet*

Navy "Overage Document" Kaizen Event

- **Kaizen --- Lean- Six Sigma (LSS) Technique For "Quick Hits"**
  - *Short-Term, Intense LSS Approach*
- **Scope: Limited to NAVAIR & NAVSEA Managed DSP Documents**
- **Objectives: Reduce Backlog & Streamline Process**
  - *Document Quality At Least As Good As Current Requirements*
- **Participants: NAVAIR, NAVSEA, DSPO**
  - *NAVAIR & NAVSEA ~ 85% of DoN Documents*
  - *Facilitated By Master Black Belt, Black Belt, & Green Belt*
- **Timeline: 9-11 Jan 07**
  - *Preparatory Research & Work Nov/Dec 06*
  - *Follow-Up During 07*
- **Tools Applied: Typical LSS (Examples on Subsequent Slides)**
  - *SIPOC, Voice of Customer, Value Stream Mapping, Idea Affinity and Benefits vs. Effort Charting, etc*

SIPOC - Improve the NAVAIR and NAVSEA specification and standards process for assuring the documents remain technically correct, current, and complete over time.

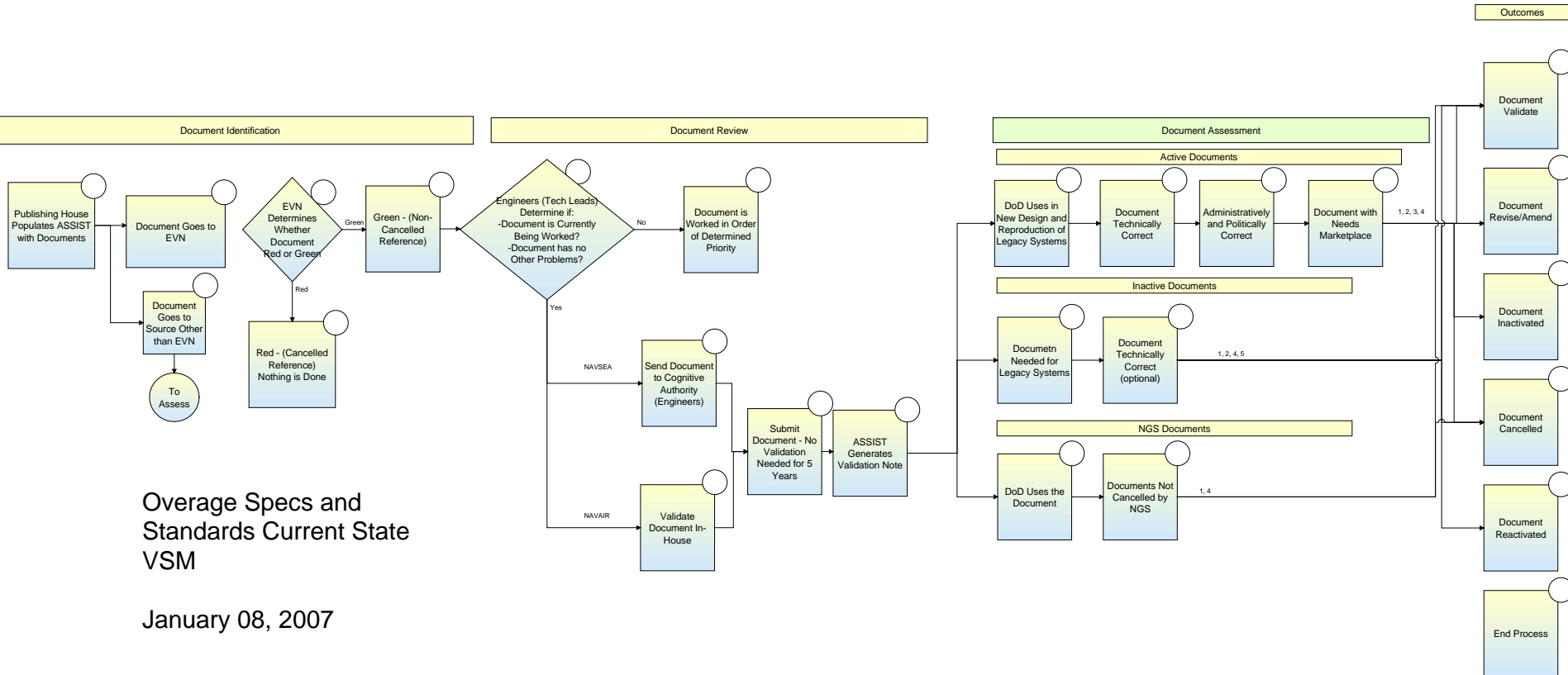| Suppliers	Inputs	Process	Outputs	Customer

◆ DoD engineers and logisticians (program offices, competencies, T&E, etc)
 	
◆ Contractor engineers
 	
◆ Nongovernment Standards Organizations (e.g., SAE, ASTM, etc)
 	
◆ OSD and Navy Policy Offices
	◆ Technical requirements from program offices, supply support offices, technical specialists, industry
	
	◆ Feedback from contractors, DCMA, others
	
	◆ DoD 4120.24-M procedures (Chapter C5.9)
	
	◆ Listing of "overage documents" (EVN)
		◆ **Step 1** ID, obtain, & review documents that have not been published/validated w/i past 5 years
		◆ **Step 2** Assess:
		  ◆ Current need by DoD
		  ◆ Adequacy of tech req'ts
		  ◆ Problem reports
		  ◆ Compliance w/current policies, laws, regs
		  ◆ Consistency with current commercial practice
		◆ **Step 3** Determine one of the following outcomes:
		  ◆ Validate
		  ◆ Revise/Amend
		  ◆ Inactivate for new design
		  ◆ Cancel
			◆ DON managed Specifications and Standards that are needed, current, correct, and complete:
			
			  ◆ Usable for design, test, acquisition, & support.
			
			  ◆ Public Law Compliance
				◆Customers:
				  ◆ Government contracting Officers, contract managers, maintainers, engineers, QA, logisticians, testers, lawyers
				  ◆ Industry (same specialties as above)
				◆Stakeholders:
				  ◆ OSD & Service "RDT&E"
				  ◆ SYSCOMs, PEOs, DLA, & DCMA

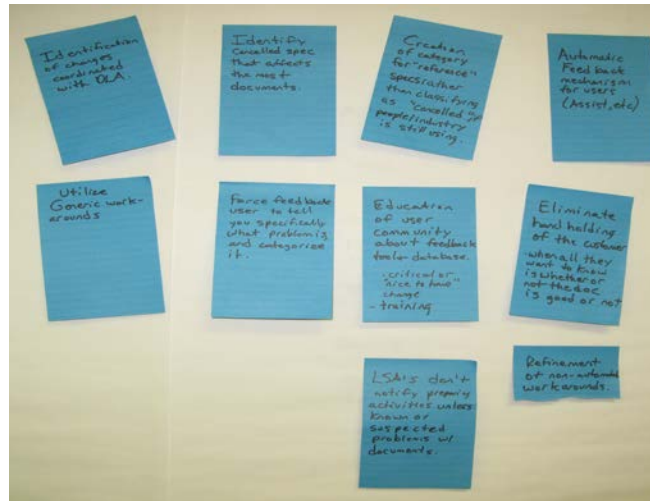| VO Customer	X=Input Metrics	X=Process Metrics	Y=Output Metrics	

• 34% of the Navy owned Specs and Stds are overage and there are not enough resources to review and validate them. (OSD)
• Cannot easily determine which specs and stds need tech change (Engineers)
• Further VOC TBD after Kaizen. (Users)
• Current and Accurate (Users)
	• Feedback
	  •*Spec needs*
	  •*Contracts needs*
	• Education/Communication
	• Human Resources
		• Technical Content Deficiency Identification	• Technical Content (Sec3)
			• Verification and QA (Sec4)
				Quality

	• Feedback • Prioritization • Trigger to start • Resources (Human and $)	• Cancelled References • Policy - administrative, NGS validation	• Reduced backlog within reasonable timeframe • Manageable workload within available resources	**Speed**
	•Current budgets or minimal change •Policy •Technology	•NVA and BNVA tasks and process steps •Cancelled References	Same/Lower overall standardization budget cost of doing business	**Cost**

Current State Map
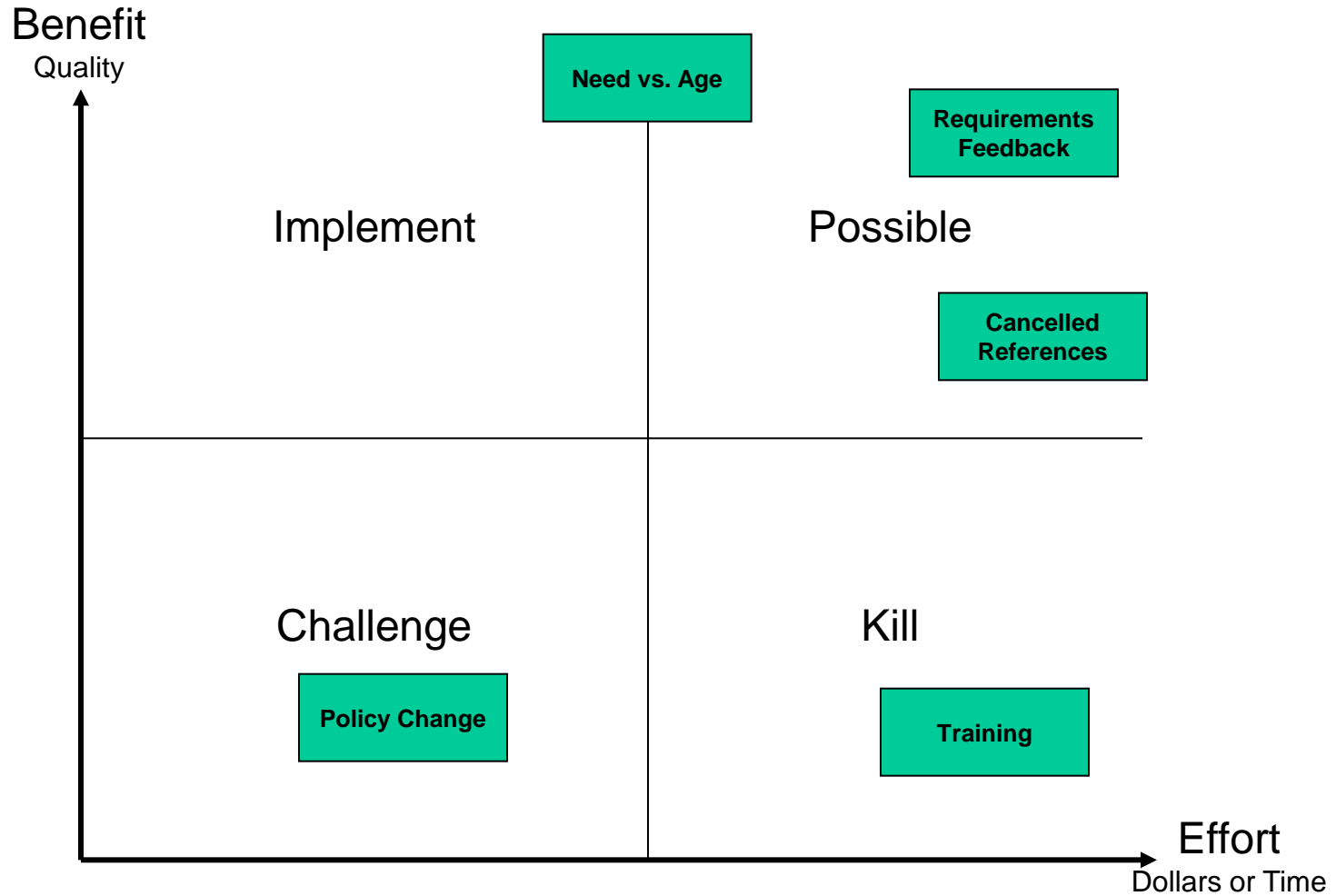

Overage Specs and Standards Current State VSM

January 08, 2007

Improvement Ideas - Affinity

Policy Change	Cancelled References	Need vs. Age	Other	Training	Requirements Feedback
Eliminate 5 yr validation requirement	Consider Reinstitution of cancelled references	Validate based on need not age	Continue the course unless know the problems are identified	Educate: value of validation exercise	Designation of product/ Technology as fundamentally stable vs. dynamic
Eliminate requirement for validation of NGS	Strategy to "revisit" address cancelled document issues	Conditioned based document review vice calendar based		Mandate DoD-wide DSP Training	Use Assist Alert to seek user feedback
Change policy to allow commands to set priority on which doc's to work	Reinstate often cited cancelled referenced w/streamlined procedures	Problem/Risk based approach (Mgmt by exception vs. everything)			Web based document feedback
Extend age from 5yrs to more	Do not include docs w/o cancelled refs as "overage"				Create contracts organization spec feedback automation module
	Allow cancelled references				Tool to obtain DoD procurement by document
					Provide tools to assess tech problems – feedback module
					Make users aware of technical deficiencies
					Visibility of documents used in PM's spec/SOW

Additional Ideas Developed Over Course of Meeting

Improvement Ideas – Benefit vs. Effort

Benefit
Quality

Implement

Possible

Need vs. Age

Requirements Feedback

Cancelled References

Challenge

Kill

Policy Change

Training

Effort
Dollars or Time

Overage Documents
Kaizen Event Summary

- **3 Improvement Areas Clearly Stood Out**

  - ✓ *DSP Policy Should Be "Need-Based" vs. "Calendar- Based"*

    - **Military & Commercial Equipment Maintenance Strategies Focus on Prognostics & Condition Based Maintenance (CBM)**

      - **Maintenance <u>decisions based on</u> actual equipment condition vs. <u>time or usage intervals</u>**

  - ✓ *Cancelled References Are The Greatest Driver Precluding Validation of "Overage" Documents*

    - **Technical Content of "Overage" Spec Generally Satisfactory**

    - **Many Cancelled References Have Acceptable Supersessions**

  - ✓ *Automated Validation Would Be Possible <u>IF</u> Document "Condition" (User Feedback) & Cancelled Reference Issue Were Resolved*

    - **Technology Could Be Built Into ASSIST**

1. Need vs. Age Approach
(Condition Based Document Maintenance)

✓ **Prognostics (Predictive Indicators) Required**
- *User Feedback Needs To Be Collected*
  - **Direct Feedback Provided to Preparing Activities**
  - **User Feedback via Other Means**
  - **Existing Discrepancy/Problem Reporting Mechanisms**
  - **Contracting/Procuring Activity "Mods/Addendum"**
  - **Technical Community (Gov't/Industry) Known Issues**

✓ **ASSIST Module To Collect/Report on Feedback**
- *Short-Term:*
  - **Centralize Feedback Collection Preparing Activities Already Receive (DD 1426, emails, phone calls, etc) in Standardized Format**
  - **User Feedback Entry in ASSIST to Comment on Specific Documents**
  - **Investigate Spec-Related Issues in Existing DR Mechanisms**
    - **Marginal GIDEP utility (6 Spec-Related reports in 17 years)**
    - **Marginal PDREP utility (Limited "design-related" causes/info)**
- *Longer-Term:*
  - **Data Mine Contracting Office Mods/Addendums for Spec Deficiencies**
    - **Initially DLA and Navy procuring activities**

2. Cancelled References
"The Situation"

- **Defense Standardization Council (DSC) "Directed Action" in 1990s on ~70+ Military Specs & Stds During Acquisition Reform**
  - *Cancelled w/o Replacement - Cancelled w/ Replacement - Converted to HDBK*
    - **MIL-STD-105 (Sampling) Referenced in 5,900+ DSP Documents**
    - **MIL-STD-109 (QA Terms) Referenced in 1,200+ DSP Documents**
    - **8 Other Documents Are Each Referenced in 100+ DSP Documents**
- **Impact of Cancelled References in Navy Managed Documents**
  - *2,137 References Cancelled … Many With Superseding Documents*
  - *15 Cancelled References Impact 100-594 Active DSP Documents Each*
    - **All but 1 Have Identified Superseding Documents**
  - *40 Cancelled References impact 40-594 Active DSP Documents Each*
    - **Most Have Identified Superseding Documents**
  - *Some of the Superseding Documents have Subsequently Been Superseded*
- **Prior DSC Decision --- No Overage Validation Via "Hard Supersession"**
  - *Even if a Referenced Specification is Cancelled & Superseded by a <u>Word-for Word Replacement,</u> Specifications that Reference the Cancelled Document Cannot be "Validated" W/O Complete Review*

2. Resolving Cancelled References Options

- **Options Considered (Among Many):**
  - *Reinstate Cancelled References as "Inactive for New Design" w/o requirement for revision*
    - **Focus on Cancellations where Navy was Preparing Activity**
    - **Focus on Cancellations Not Directed by DSC**
    - **Need to Address those Cancelled by DSC**
  - *Address Cancelled References w/Greatest Impact Potential*
    - **Focus on Cancellations where Navy was Preparing Activity**
    - **Focus on Cancellations Not Directed by DSC**
    - **Need to Address those Cancelled by DSC**
  - *Re-Address Policy Precluding Validation via "Hard Supersession"*
    - **Focus on Those With Single, Current Superseding Document**
      - **Mass Amendment**
    - **Then Address Those With Optional Superseding Documents**
      - **Obtain Tech Expert Recommendation**
      - **Mass Amendment**
    - **Defer Cancellations Replaced by Multiple Superseding Documents**
- ✓ **Combinations of Above**
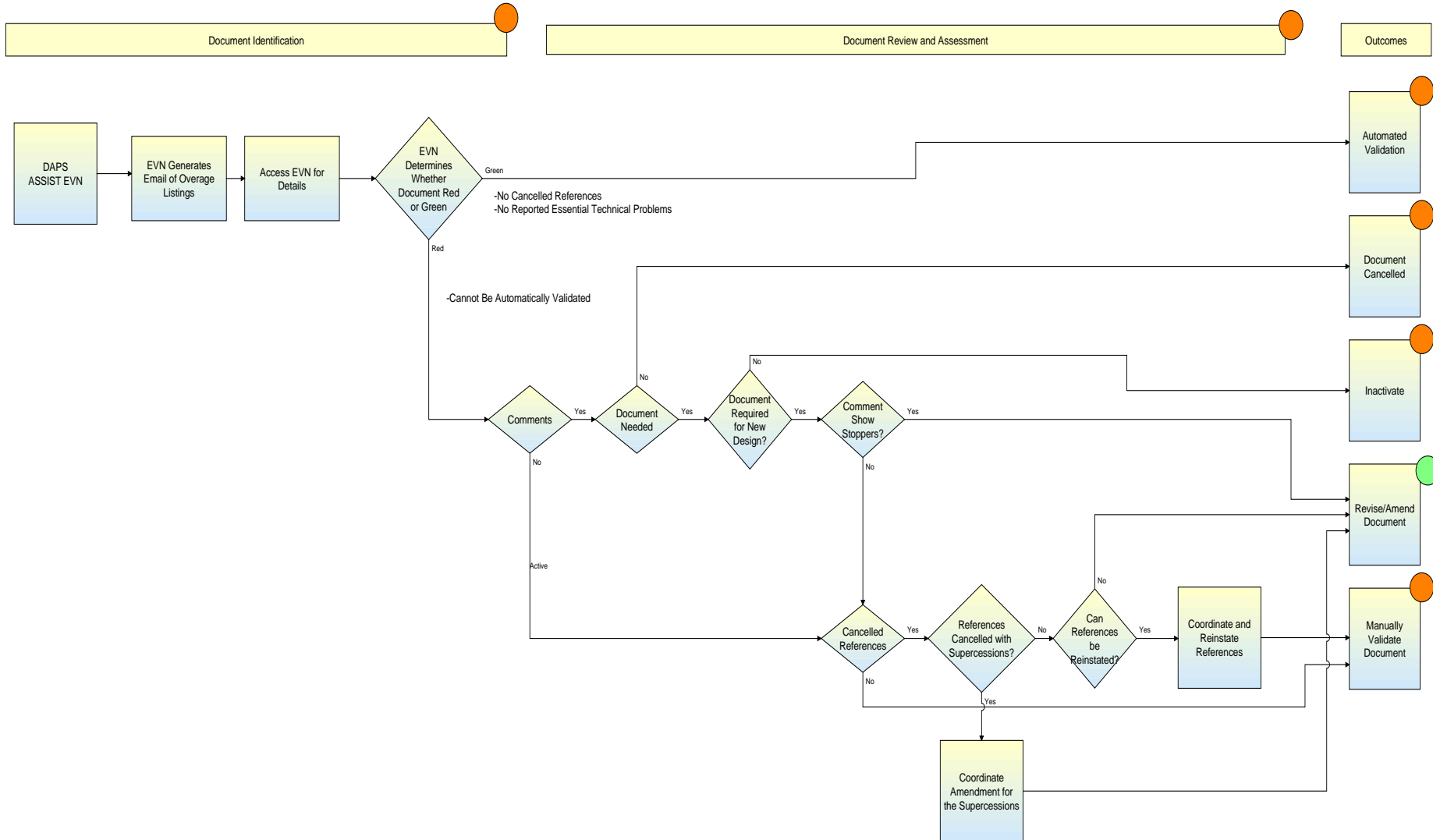 - ✓ *Brief DSC & Obtain Approval If Necessary*

3. Automated DSP Document Validation

- **Current Capability --- ASSIST Extended Validation Utility (EVN)**

  - *Reports Specs/Stds With Document Dates 5-years or older*

    - **Easy Validation of Documents Without Cancelled References**

    - **Specs w/Cancelled References Must Be "Corrected"**

- ✓ **Automated Validation Concept ***

  - *EVN Determines Whether Specification Contains A Cancelled Reference AND Whether Feedback Against The Specification*

    - **If "Green", ASSIST Automatically Validates The Document**

    - **If "Red", Preparing Activity Takes Appropriate Action**

  - *Success Depends On:*

    - **Establishing Automated Feedback Mechanism (Improvement # 1)**

    - **Solving Cancelled Reference Situation (Improvement #2)**

* Value Stream Map on Next Slide

Validation of Active DSP Specifications and Standards Future State VSM

Document Identification

Document Review and Assessment

Outcomes

- DAPS ASSIST EVN
- EVN Generates Email of Overage Listings
- Access EVN for Details
- EVN Determines Whether Document Red or Green

Green
-No Cancelled References
-No Reported Essential Technical Problems

Red
-Cannot Be Automatically Validated

- Comments
- Document Needed
- Document Required for New Design?
- Comment Show Stoppers?
- Cancelled References
- References Cancelled with Supercessions?
- Can References be Reinstated?
- Coordinate and Reinstate References
- Coordinate Amendment for the Supercessions

Outcomes:
- Automated Validation
- Document Cancelled
- Inactivate
- Revise/Amend Document
- Manually Validate Document

Overage Document Improvement Summary

- **Problem … Current Procedures Exceed Resource Capability**
  - *Calendar Based vs. Condition Based*
    - **User Feedback Not Available in Actionable Manner**
  - *Policies on Cancelled References Causing Administrative "Overage"*
    - **Supersessions to Cancellations Not Recognized for Validation**
    - **Cancelled References Often Still Used by Military & Civil Sector**
- **Improvement Proposals**
  - ✓ *Establish Standardized Feedback Collection Repository in ASSIST*
    - **DSPO Lead … CONOPS by end of FY07**
  - ✓ *Address/Readdress Cancelled References*
    - **Obtain DSC Approval for "Hard Supersessions" of Cancelled References**
    - **Selectively Reactivate High-Impact Cancelled References**
      - **Obtain DSC Approval Where Required**
  - ✓ *Automate Document Validation*
    - **Manual Validation Only When Indicated by Feedback AND/OR Document Contains A Cancelled Not Resolved by Improvement Proposal #2**