

# NDIA 2008

## Munitions Executive Summit “The Future is Now”

***RDML James P. McManamon***  
***Director, DON Weapons and Ordnance Safety (SEA 00V)***  
***and***  
***NAVSEA Deputy Commander for Surface Warfare***  
***(SEA 21)***



- **Who is SEA 21**
- **CNO Guidance**
- **Service – Industry Partnership**
- **Systemic Munitions Challenges**
- **Navy’s SMCA Investment**
- **Road Ahead**
  - **Design and Construction**
  - **Modernization**

- **ASN (RDA) addressed span of control issues in PEO ships and requested options to reduce the PEO portfolio and achieve a more effective distribution of programs.**
- **SEA 21 formed to provide for new construction as well as modernization efforts.**
- **Platform is a means of conveyance to put the ordnance on target**
  - **Mission success highly dependant upon quality ammunition, in the right amounts, at the right locations, when required.**
- **Navy highly values the conventional ammunition industrial base and its preservation.**

# CNO's GUIDANCE

- **Conduct the full range of operations from combat to humanitarian assistance.**
- **Provide presence and operational flexibility with forward deployed maritime forces.**
- **Deter and, if deterrence fails, win our nations wars.**
- **Foster and sustain cooperative relationships with an expanding set of allies to enhance global security.**

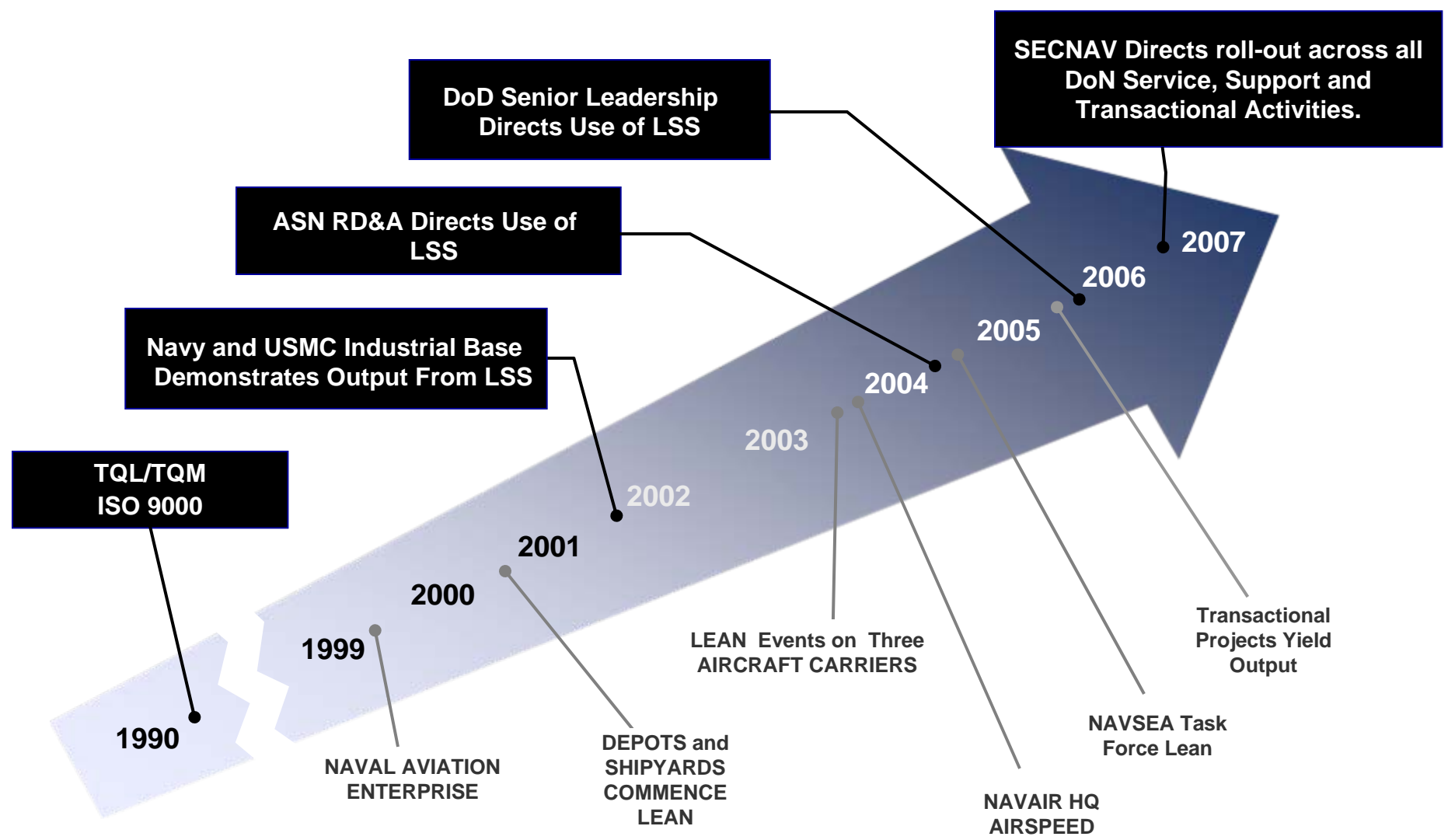
**Protect maritime freedom and address threats to peace**

## The Good

- **A collaborative government/industry forum to discuss common issues and concerns**
- **Adequacy in performance of munitions in theater**
  - **Quality munitions**
  - **RDDs being met**
  - **Best military force in history due to strength of industrial base**
- **Applaud the use of LEAN/Six Sigma practices**
  - **Navy Munitions Command**
  - **Smoke grenade**
- **Transition to SMCA for centralized management and scales of economy**

## The Bad

- **GWOT costs compete with force structure requirements**
- **BRAC transition challenges**
- **Political direction**



# Department of the Navy Objectives for FY 2008 and Beyond



DEPARTMENT OF THE NAVY  
OFFICE OF THE SECRETARY  
1000 NAVY PENTAGON  
WASHINGTON DC 20350-1000

October 9, 2007

## MEMORANDUM FOR DISTRIBUTION

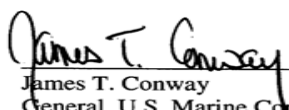
SUBJECT: Department of the Navy Objectives for FY 2008 and Beyond

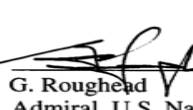
The attached Department of the Navy (DON) Objectives focus on key efforts that will provide real benefits to the Nation in the fulfillment of our responsibilities to maintain a capable Navy and Marine Corps. It is imperative to complete these important Objectives to the best of our ability. Success will increase the effectiveness of the entire Department, improve the lives of Sailors and Marines, and result in greater security for the United States.

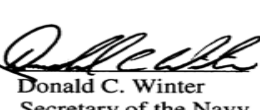
These Objectives build on the efforts and successes achieved to date. They cascade from strategic priorities established by the Secretary of Defense and are expected to provide strategic guidance for the remainder of the Administration.

These Objectives are not intended to be a comprehensive list of all that needs to be done in the Department. Neither does the position of an Objective in the list reflect any relative priority. The list does, however, reflect areas we personally intend to track.

Support for the accomplishment of the attached DON Objectives is necessary and appreciated. Progress on the accomplishment of these Objectives will be reported in the SECNAV Monthly Review (SMR). Responsibility for reporting the schedules, accomplishments, and metrics for each Objective is listed in the attachment.

  
James T. Conway  
General, U.S. Marine Corps  
Commandant, U. S. Marine Corps

  
G. Routhead  
Admiral, U.S. Navy  
Chief of Naval Operations

  
Donald C. Winter  
Secretary of the Navy

Attachment:  
As stated

(See Distribution on next page)

**Objective 1.h. to "Accelerate the integration of Lean Six Sigma across the DON to develop a culture of continuous process improvement. Develop Standard Operating Procedures to leverage benefits resulting from these efforts with results clearly depicted in the SECNAV Monthly Review report (Lead: Each Organization's Leader)"**

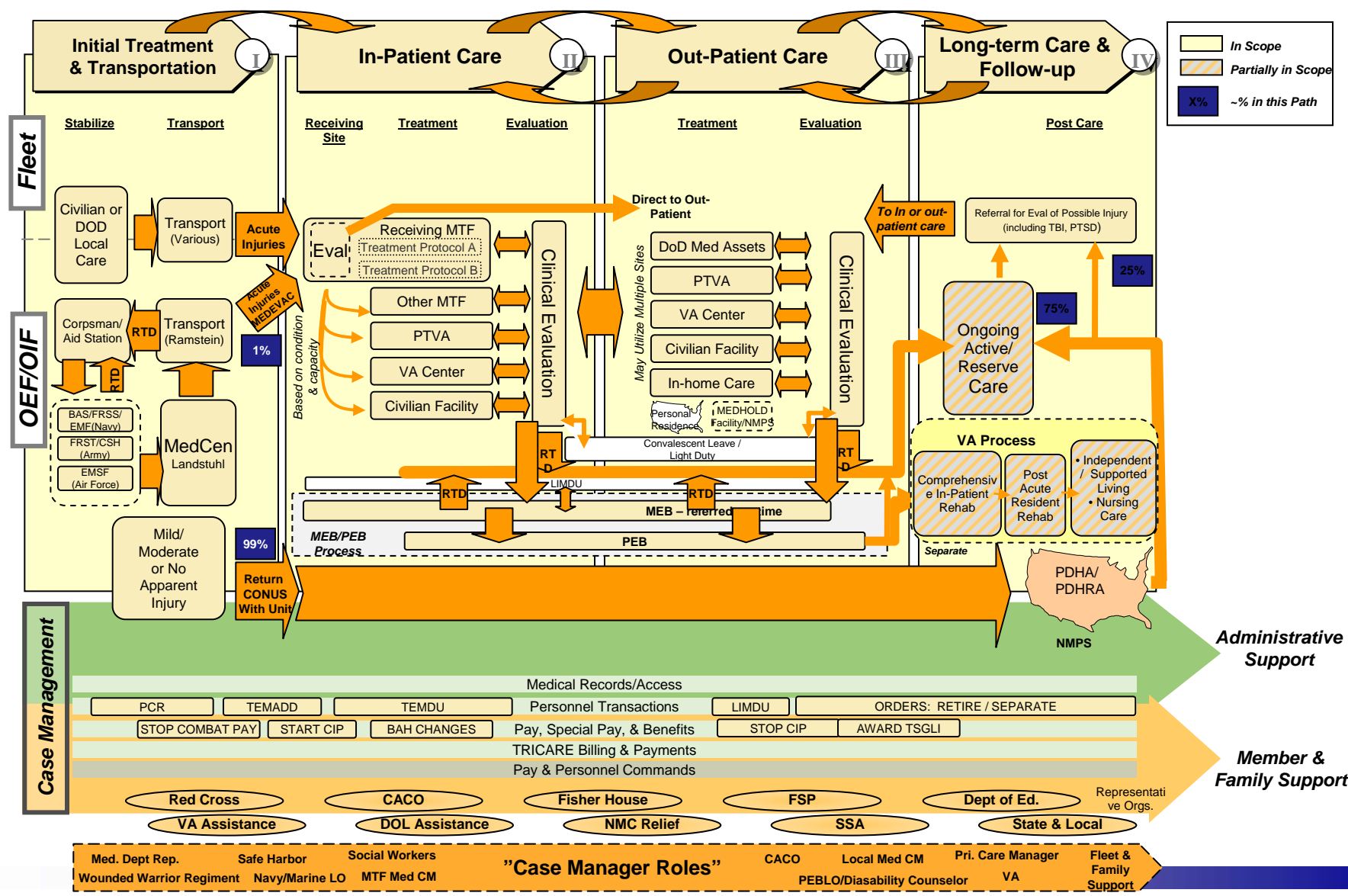
# DoN Lean Six Sigma Three Year Action Plan



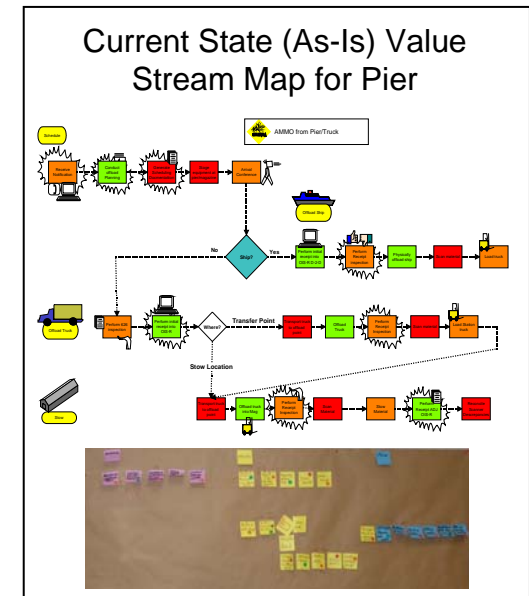
Phase I Year 1 CY06	Phase II Year 2 CY07	Phase III Year 3 CY08
<b>Leadership</b>		
<ul style="list-style-type: none"> <li>Leadership Kick-off and monthly progress meetings</li> <li>Balance process metrics across DoN objectives &amp; goals</li> <li>Plan for XX% reduction in overhead through CY08</li> <li>NSPS SES / Flag fitness report bullet that recognizes LSS contributions</li> <li>Accelerate the journey for those who have started (AIRSpeed, Task Force Lean, et. al.) and report out financial results</li> <li>Start the journey with enabling service, support and transactional functions (i.e., FIN, HR, SC, IT, etc)</li> </ul>	<ul style="list-style-type: none"> <li>Take XX% of overhead cost out of the Department</li> <li>Accelerate integration w/ industrial base and be accountable for financial harvesting</li> <li>Re-align to DoN 07 objectives &amp; goals, and measure LSS output to DoN 06 objectives and goals</li> <li>All military and civilian performance evaluations and fitness reports recognize LSS contributions</li> </ul>	<ul style="list-style-type: none"> <li>Take an additional XX% of overhead cost out of the Department</li> <li>Re-align to DoN 08 objectives &amp; goals, and measure LSS output to DoN 07 objectives and goals</li> <li>Accelerate Enterprise maturity</li> </ul>
<b>Work Product</b>		
<ul style="list-style-type: none"> <li>High impact core value streams are identified, mapped, and all applicable personnel are prepared to DMAIC</li> <li>Accelerate Integration of organic Supply &amp; Industrial Base with external suppliers (i.e., private industry, DLA)</li> <li>Identify where LSS applies to the Warfighter (i.e., war-game planning &amp; events)</li> <li>Identify and clean legacy data bases for conversion to Navy ERP</li> </ul>	<ul style="list-style-type: none"> <li>High impact core value streams are DMAIC</li> <li>Continuous Improvement of those activities that started before Jan 06</li> <li>100% of all major Defense contracts awarded to industry will contain a LSS incentive clause</li> <li>Introduce Malcolm Baldrige criteria</li> </ul>	<ul style="list-style-type: none"> <li>High impact core value streams are revisited</li> <li>Service, support and transactional functions are in a Continuous Improvement closed loop</li> <li>25% of extended (with industry) value chains have been leaned out</li> </ul>
<b>Education and Training</b>		
<ul style="list-style-type: none"> <li>1,000 Black Belts certified</li> <li>2,000 Green Belts certified</li> <li>25% of GS-15 /06 and above complete Champion training</li> </ul>	<ul style="list-style-type: none"> <li>1,000 additional Black Belts</li> <li>4,000 additional Green Belts</li> <li>100% of GS-15 /06 and above complete Champion training</li> </ul>	<ul style="list-style-type: none"> <li>Train additional Black Belts equal to 1% of affected workforce</li> <li>Train additional Green Belts equal to 4% of affected workforce</li> </ul>



# Comprehensive Casualty Care High Impact Core Value Stream



- **NMC transformation going well**
  - FY07 Savings goals exceeded
  - LSS Deployment goals progressing
- **Current initiatives**
  - **Ship Loads and Offloads**  
Improve service and reduce duration
  - **General Purpose Bomb Build-up**  
Reduce assembly time
  - **Rail Logistics**  
Reduce cost, increase flexibility and efficiency



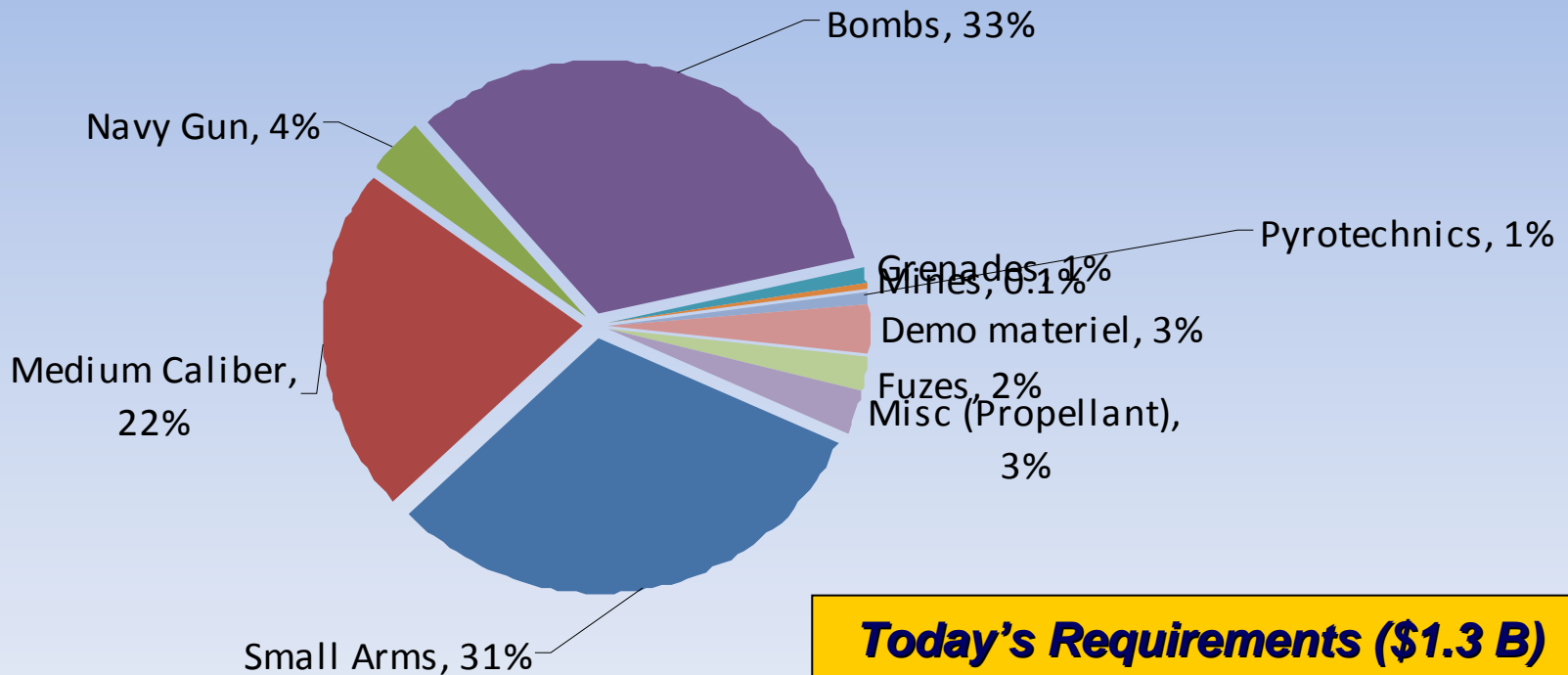
## CNO Challenge

Reduce Fleet Ordnance Support (FOS) costs, with no impact on readiness, by 2% in FY10 and an additive 2% each year through the FYDP to reach 12% by FY15

- **Storage**
  - Inert, Obsolete, or Unused assets
    - 16” propellant bags, cluster munitions, mines, etc
  - Demil stockpile footprint vs. Services’ planned receipts
- **Transportation and receipting retail assets**
  - Temporary holding areas, safe havens, security
- **Interoperability**
  - HERO, IM, compatibility of stowage, etc.
  - Joint test criteria and requirements
  - Joint Service/Industry safety reviews
- **Maintenance**
  - Major/minor work on stockpile assets
  - Service life extensions on missile systems


- ✓ GWOT
- ✓ Annual training
- ✓ RDT&E
- ✓ International Programs

**FY07 - FY13 Navy SMCA Procurements  
by Ammunition Family**



**Today's Requirements (\$1.3 B)**

- **Naval Forces Structure**
  - **Today**
    - **11 Strike groups (10 based in U.S.; one forward deployed)**
    - **Fleet Response Plan**
      - » **Six ready for deployment within 30 Days at any given time.**
      - » **Additional two groups deployed within 90 days.**
  - **2007-2008 CNO Guidance**
    - **313 ships and 3800 aircraft maintained in Naval Service by 2020**
- **Combat Systems evolution**
  - **‘System of systems’ with BMD efforts and Net-Centric warfare**
  - **Pinpoint accuracy with prescribed collateral damage**
  - **Common weapon systems across new construction platforms**
  - **Increasing use of UAVs**
  - **Directed energy weapons**
- **Operational Safety**
  - **Naval platforms becoming multi-mission and multi-Service**
  - **Explosives safety considerations: HERO, IM, etc.**
  - **Environmental stewardship**

Concept Refinement	Technology Development	System Development & Demonstration	Production & Deployment	Operations & Support
<p><b>JHSS</b></p>  <p><b>JMAC</b></p>  <p><b>CG(X)</b></p> <p><b>JCC(X)</b></p>	<p><b>MPF(F)</b></p>      	<p><b>LCS</b></p>   <p><b>DDG 1000</b></p>  <p><b>LHA 6</b></p> 	<p><b>LPD 17</b></p>  <p><b>T-AKE</b></p>  <p><b>LHD 8</b></p>  <p><b>LCAC SLEP</b></p> 	<p><b>Small Boats</b></p>  <p><b>LSD 49</b></p>  <p><b>CG 47</b></p>  <p><b>DDG 51</b></p> 

- **Program Capability**

- Serve as highly capable surface combatant tailored for Integrated Air and Missile Defense and Joint Air Control Operations
- Provide airspace dominance and Sea Shield protection to all joint forces in Sea Base and APOD/SPOD

- **Way Ahead**

- CG(X)/Maritime Air and Missile Defense of Joint Forces Analysis of Alternatives (AoA) is completed and is being staffed by Navy leadership
- Milestone A decision is expected in Q2 FY08
- First ship delivery is 2017 with IOC in 2019
- Premature to commit to any given platform or design decisions until Navy Leadership recommends a preferred alternative to OSD

**Combat Systems TBD**



- **Navy Program Review**

- Both design approaches satisfy fleet-validated need
- For a 55-ship class, the critical issue is cost of production
- Need to maximize efficiencies in production and minimize operation and maintenance costs

- **Way Ahead**

- Deliver LCS 1 and 2
- Contain cost growth within budget
- Mature key technologies



**Ship Weapon System:**

*MK 48 GWS (57mm BOFORS)*

**Mission Module Weapon Systems:**

*MK 50 GWS (30mm variant)*

*NLOS*

*RAMICS*

*AMNS*

*MH-60 Helo R/S Variants*

*VTUAV*



- Designated DDG 1000 ZUMWALT Class April 06
- Detail Design contracts awarded in Aug 06 to NGSS and BIW
- Mission System Equipment contacts awarded to Raytheon (Jan 07) and BAE (June 07)
- Navy re-sequenced first ship set of Mission Systems Equipment to BIW
  - Contracts awarded for long lead-time material Nov 07
- Construction contracts to be awarded in 08 to NGSS and BIW

**Weapon Systems:**

*MK 57 Vertical Launch System (PVLS)*

*Advanced Gun System (155mm)*

*MK 48 GWS (57mm BOFORS)*



- **DON is active industrial base partner**
  - Heavy reliance on ammunition wholesale base for annual training and contingency re-supply
  - Active supporter of the U.S. Army's Ammunition Enterprise
  - Closest collaboration ever with PEO Ammo
  - BRAC transition
- **Interoperability of Services imperative**
  - Common visibility of ordnance items through info systems
  - Requirements collaboration
  - Joint design and development of today's weapon systems and platforms
  - Safety considerations (HERO, IM, etc.)
  - Standardization of joint criteria/test requirements

# BACK-UP

- **LHA 6 \$2.4B construction contract awarded June 07**
  - Same gas turbine propulsion as LHD 8
  - Expanded aviation capabilities:  
(12 MV-22s, 4 CH-53s, 4 AH-1s, 3 UH-1s & 6 F-35Bs)
- **LHD 8 under construction**
  - Delivers Nov 08

**Ship Weapon Systems:**  
Rolling Airframe Missile  
NULKA  
SRBOC



# SAN ANTONIO (LPD 17) Class



- **USS SAN ANTONIO (LPD 17)**
  - Delivered Jul 06
  - Commissioned Jan 06
- **NEW ORLEANS (LPD 18)**
  - Delivered Dec 06
  - Commissioned Mar 07
- **MESA VERDE (LPD 19)**
  - Delivered Sep 07
  - Commissioned Dec 07
- **GREEN BAY (LPD 20)**
  - Delivery in 08
- **NEW YORK (LPD 21)**
  - Launched Dec 07
- **SAN DIEGO (LPD 22)** – Keel laid May 07
- **ANCHORAGE (LPD 23)** – Keel laid Sep 07
- **ARLINGTON (LPD 24)** – Started fab. Aug 07
- **SOMERSET (LPD 25)** – Start fab. 08



**Ship Weapon Systems:**  
*Mk 46 Mod 1 GWS (30MM)*  
*RAM*  
*NULKA*  
*SRBOC*

## *Maintaining, modernizing and improving the performance and readiness of in-service ships*

### SHIPS AND PLATFORMS

LPD 4 Class – (7)	MHC 51 Class – (4)
LSD 41 Class – (8)	PC Class – (13)
LSD 49 Class – (4)	AS 39 Class – (2)
LHA 1 Class – (3)	LCC 19 Class – (1)
LHD 1 Class – (7)	Dry Docks – (9)
MCM 1 Class – (14)	
LPD 17 Class (2) – Fleet Intro	
LHD 8 (1) – Fleet Intro	

**10 Ship Classes  
72 Ships / Dry Docks  
3 Fleet Intro**



FY07 CNO AVAILABILITIES						
CLASS	PMA	DPMA	ISRA	SRA	DSRA	EDSRA
AS 39	1					
LCC 19				1		
LHA 1						
LHD 1	2	1		1		
LPD 4	3					
LSD 41	2					
LSD 49	1			1		
MCM 1	5	1	1			
MHC 51						
PC		1				
<b>TOTAL FY07 CNO AVAILABILITIES</b>					<b>21</b>	

***Focused on efficient repeatable processes that enable continuous improvement***

# In-Service Surface Combatants

***Sustain, modernize and increase the war-fighting capabilities of surface combatants at home and forward deployed***

SHIPS AND PLATFORMS

DDG 51 Class – 48  
FFG 7 Class – 31

CG 47 Class – 22  
LCS Class – 0

**4 Ship Classes  
101 Ships  
4 Fleet Intro**



***Focused on efficiency, readiness, evolution and continuous process improvement***

FY07 CNO AVAILABILITIES				
CLASS	SRA	DSRA	ESRA	EDSRA
CG 47	7	2	1	5
DDG 51	24	5		
FFG 7	20	1		
<b>TOTAL FY07 CNO AVAILABILITIES</b>				<b>65</b>

FY08 CNO AVAILABILITIES				
CLASS	SRA	DSRA	DMP	EDSRA
CG 47	8		1	3
DDG 51	26	6		
FFG 7	15			
<b>TOTAL FY08 CNO AVAILABILITIES</b>				<b>59</b>

# CRUISER Upgrades



**SPQ-9B:**

- Pulse Doppler Radar
- Increases capability against small targets in clutter environment (Littoral)
- GWS Sensor

**Open Architecture Computing Plant:**

- Improves ability to insert new technologies into platform

**AWS/SPY:**

- Improved computing and display capabilities
- Improves operators ability to recognize surface threats, manage surface picture and engage required targets
- SPY Horizon Track While Scan, for B/L 3&4, will improve capability to detect small craft and decrease potential to misidentify such targets as clutter

**MK-34 GWS:**

- Combination of MK-160, Mod 4 Gun and EOSS
- Increases number of options available to operator for detection and engagement of surface threat
- Digital fire control and gun improve accuracy of first shot

**CIWS BLK 1B:**

- IR Sensor
- Inherent anti-surface capability

**MK-116 MOD 7 Upgrade (CG 52-58):**

- Improved reliability
- Increase in level of integration with AWS
- Mitigates obsolescence issues

**SQQ-89A(V)15 (CG 59-73):**

- Upgrade for Baselines 3&4
- Increases ability to detect/engage in both open and shallow water
- Improved computing and displays
- Multi-Function Towed Array (MFTA) allows for improved passive ops and bi-static sonar operations
  - MFTA acts as receiver
  - SQS-53 is transmitter
- Improved torpedo detection capabilities

**SPQ-9B:**

- Pulse Doppler Radar
- Improved capability to detect and track low-flying, high speed, small RCS ASCMs in heavy clutter
- Integrated to cue SPY Radar and improve overall AWS capabilities against the ASCM threat

**AWS/SPY:**

- Improved computing and display capabilities
- Faster processing and greater track capacity
- SPY OA features improved algorithms for AW processing
- Improved displays increase operator's ability to maintain situational awareness and improve ability to discern and act on air threat

**CEC:**

- Fire control quality data link
- Allows utilization of off ship sensor data
- Allows for greater force-wide engagement

**ESSM:**

- Quick Reaction, relatively short ranged missile
- Provides increased defense in depth in conjunction with SPQ-9B, upgraded AWS, CEC, SM-2 and CIWS

**CIWS BLK 1B:**

- Increased probability of kill due to tighter firing pattern



## Modernized Cruiser: Faster Reaction and Improved Engagement Against the Three Dimensional Threat



# DDG 51 Upgrades



**Open Architecture Computing Plant:**

- Improves ability to insert new technologies into platform.

**AWS/MULTI-MISSION SIGPRO:**

Improved computing and display capabilities

- Improves operators ability to recognize surface threats, manage surface picture and engage required targets
- Add Aegis Littoral Processor to system allowing discerning of air targets against land heavy background clutter along with improved capability to detect small craft and decrease potential to misidentify such targets as clutter.

**MK-160 FCS:**

- Increases number of options available to operator for detection and engagement of surface threat
- Digital fire control and gun improve accuracy of first shot

**CIWS BLK 1B:**

- IR Sensor
- Inherent anti-surface capability



**SQQ-89A(V)15:**

- Upgrade for Flight I and II
- Increases ability to detect/engage in both open and shallow water
- Improved computing and displays
- Multi-Function Towed Array (MFTA) allows for improved passive ops and bi-static sonar operations
  - MFTA acts as receiver
  - SQS-53 is transmitter
- Improved torpedo detection capabilities



**AWS/MULTI-MISSION SIGPRO:**

- Improved computing and display capabilities
- Improved computing and display capabilities
- Improves operators ability to recognize surface threats, manage surface picture and engage required targets
- Adds BMD mission to class.
- Add Aegis Littoral Processor to system allowing discerning of air targets against land heavy background clutter along with improved capability to detect small craft and decrease potential to misidentify such targets as clutter.

**CEC:**

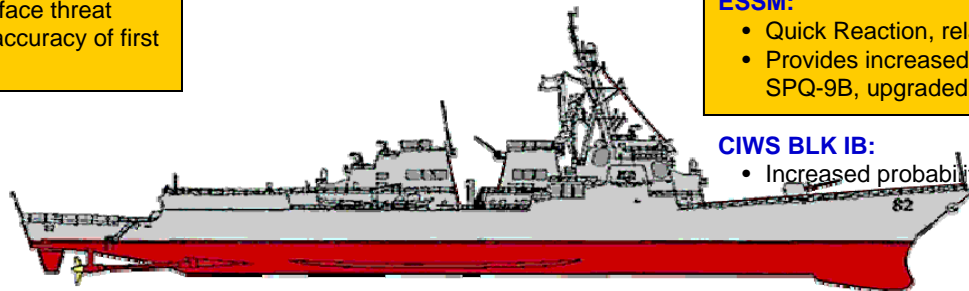
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**Modernized DDG 51: Faster Reaction and Improved Engagement Against the Three Dimensional Threat**