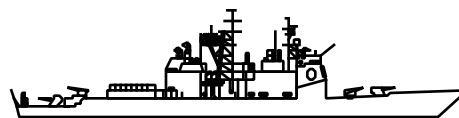
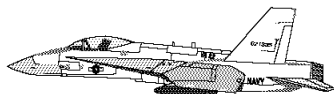
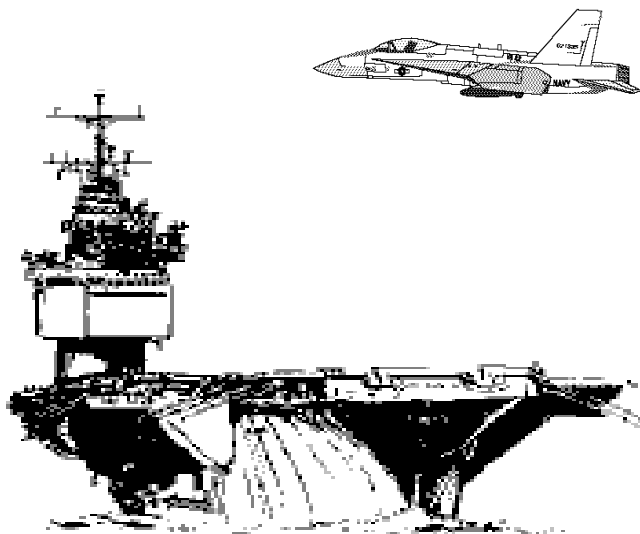




# OPNAV HIGH SPEED STRIKE SYSTEM (HiSSS) ROADMAP

N880C/D Capt. Nash; N872 Capt Donahue; N864F Capt Army; N85 F. Shoop

16 July 1997



Prepared for OPNAV by NAWCWPNS-  
S. Lyda 473240D 760-939-7395

12/11/97



# HiSSS Vision

**“Reducing current *INFRASTRUCTURE & INVENTORIES* of weapon systems to provide an *AFFORDABLE, COMMON FAMILY* of *STRIKE WEAPONS* which allow an *EFFECTIVE, SUPPORTABLE* solution to the *THREATS* of the *future (2010)*”**

Prepared for OPNAV by NAWCWPNS-

S. Lyda 473240D 760-939-7395

12/11/97



# MISSION NEED STATEMENT



- **Mission:** *Attack, Destroy, & Hold at Risk Short Dwell and/or Time-Critical Targets at Long Standoff Ranges*
- **Performance:** *Range up to 600 nmi  
Average speed M3.5-M7  
High weapon survivability  
Penetration of 18-36 feet of concrete  
Reactive SEAD*
- **Constraints:** *START Treaty*
- **Goal:** *Family of Hypersonic Cruise Missiles  
Neckdown to 1 type of Weapon vice 6 currently  
Minimize cost of ownership  
2010 IOC*
- **Compatibility:** *Day, night, adverse weather operation  
Navy/Shipboard compatible  
F/A-18 E/F, JSF, F-22, F-16, F-15E, B52, B-2, B-1, MLRS,  
Surface ships, & submarines*

Source: MNS draft,  
received 5/22/97

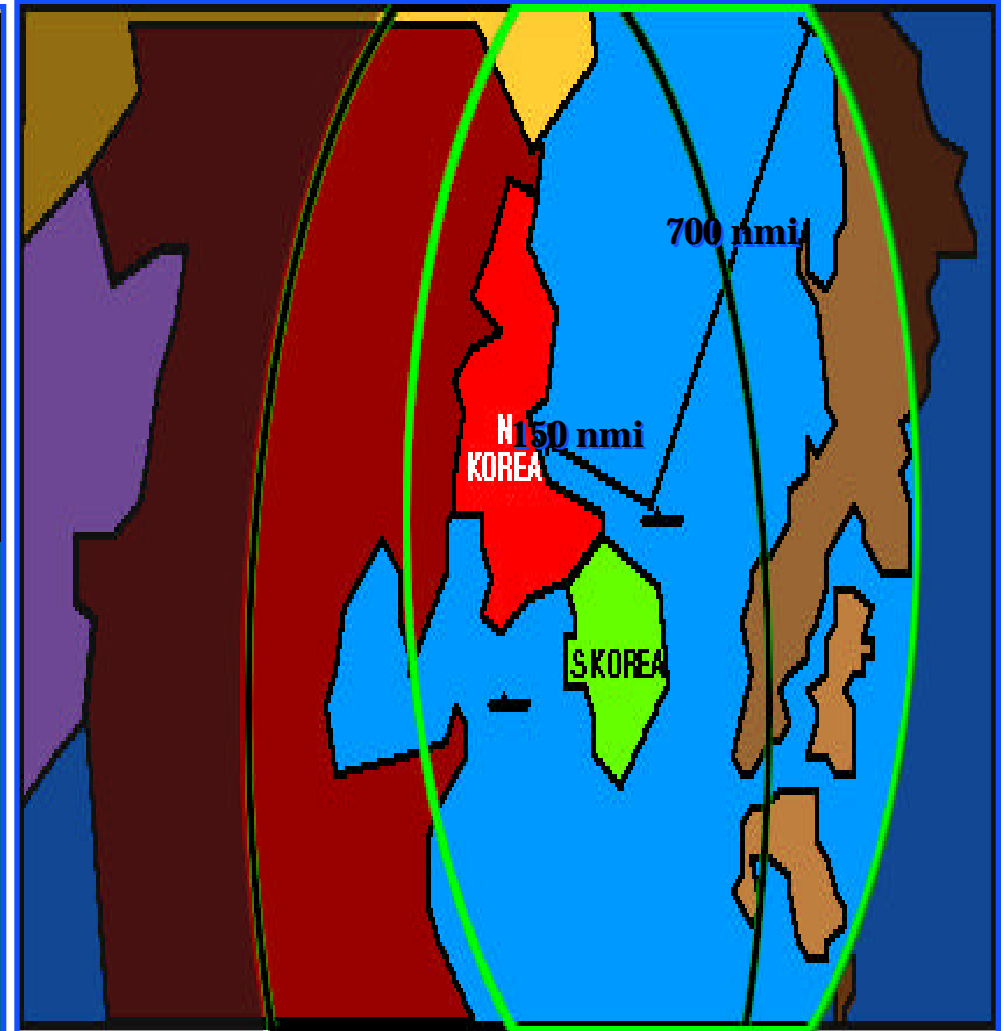
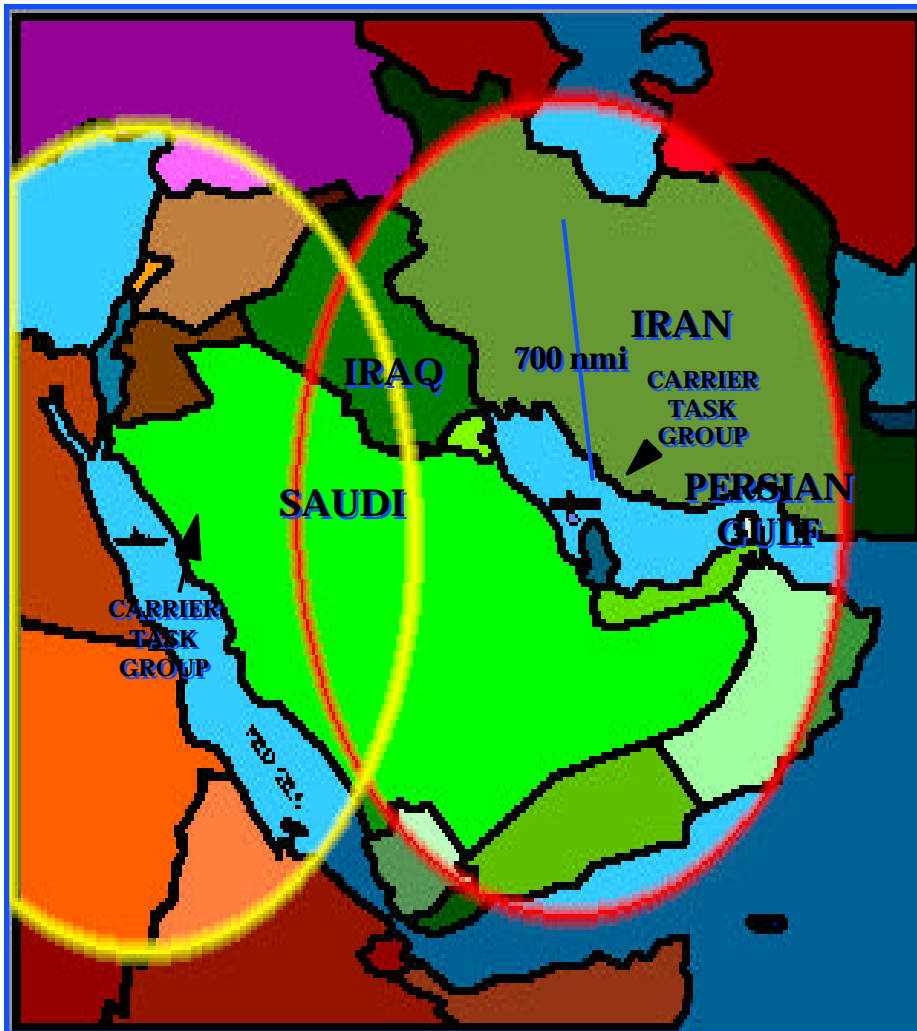
Prepared for OPNAV by NAWCWPNS-  
S. Lyda 473240D 760-939-7395

12/11/97

## // ::



# HiSSS FORCE PROJECTION



Prepared for OPNAV by NAWCWPNS-

S. Lyda 473240D 760-939-7395

12/11/97



# PROVIDE THEATER CINCS NEAR REAL-TIME CAPABILITY



## ● TARGETING

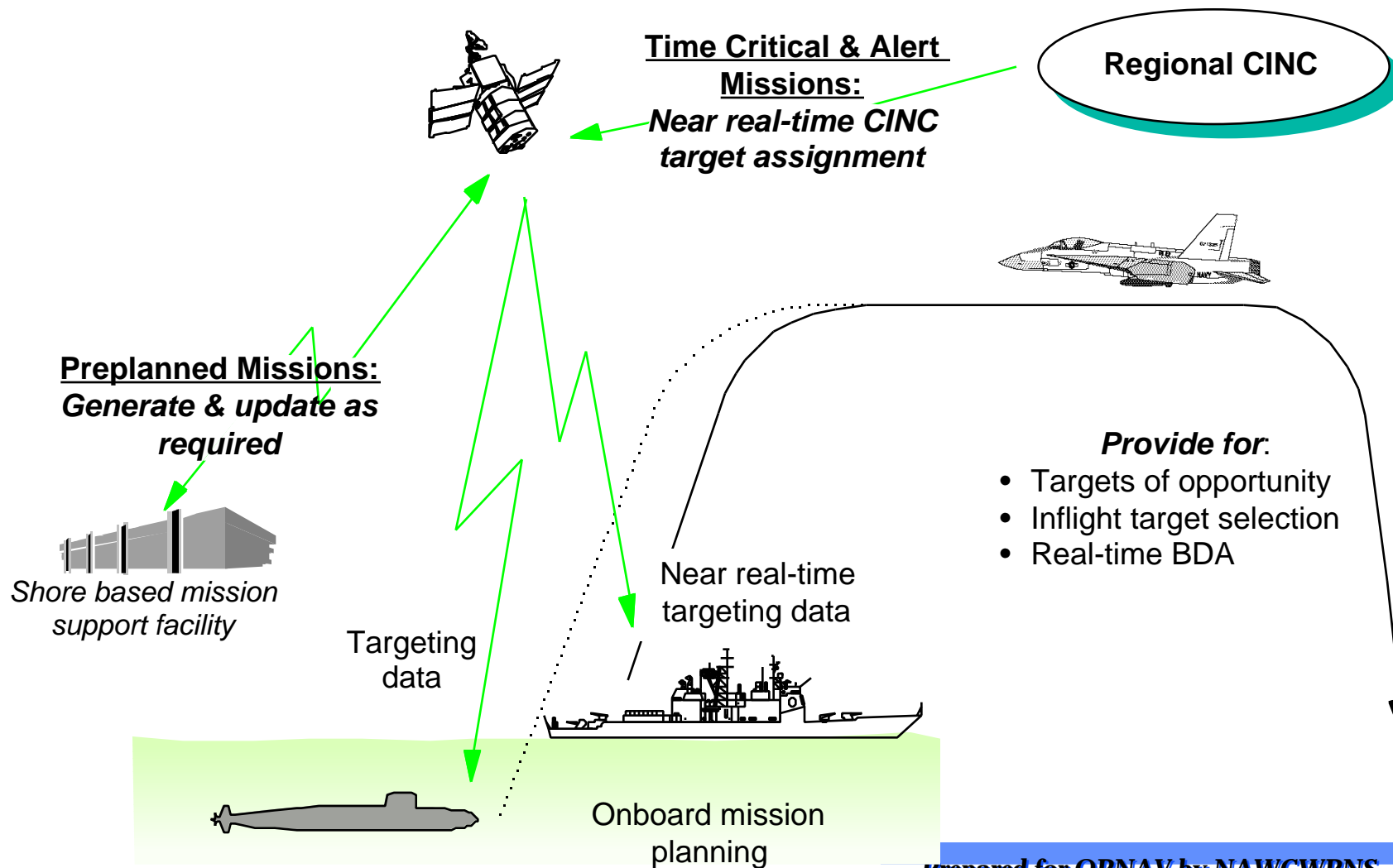
- "FIRST DAY, FIRST STRIKE" / INTERDICTION MISSIONS
  - » PLANNED TARGETING PACKAGES
  - » STATIC HIGH VALUE, HARDENED FIXED TARGETS
- THEATER RESPONSE
  - » UNPLANNED TARGETING PACKAGES
  - » RAPID RESPONSE TO EVOLVING TARGETS, THREATS, OPERATIONAL REQUIREMENTS
  - » NEAR REAL-TIME TARGETING DATA ASSIGNMENT, MISSION PLANNING

## ● EMPLOYMENT

- COMPATIBILITY WITH PORTIONS OF EVOLVING INFRASTRUCTURE
  - » SURFACE / SUBMARINE VERTICAL LAUNCH
- REAL-TIME COMMUNICATIONS
  - » INTEGRATED THEATER LEVEL TARGET ASSIGNMENT / BDI NETWORK



# CONOPS IMPLEMENTED WITHIN FUTURE COMMAND STRUCTURE



Prepared for OPNAV by NAWCWPNS-  
S. Lyda 473240D 760-939-7395

12/11/97



# MEMORANDUM OF AGREEMENT FOR HIGH SPEED STRIKE CAPABILITY



- **PARTIES:**
  - N880C/D CAPT NASH
  - N872 CAPT DONAHUE
  - N864F CAPT ARMY
  - N85 MR. F. SHOOP
  
- **OBJECTIVE:**
  - LEVERAGE LIMITED RESEARCH AND DEVELOPMENT DOLLARS
  - ESTABLISH A JOINT EFFORT BETWEEN THE OPERATIONAL CODES TO SUPPORT COMMON REQUIREMENTS, TECHNOLOGY, AND ACQUISITION EFFORTS RELATING TO THE MNS.
  
- **LEAD NAVY EFFORTS:**

**Mission Area**

**Requirements**

**Science and Technology**

**Weapon System**

**Acquisition**

**Activity**

**OPNAV N86, N87, and N88**

**Office of Naval Research**

**Weapon Department Code 470000D**

**NAVSEA & NAVAIR IPT**

**Prepared for OPNAV by NAWCWPNS-**

**S. Lyda 473240D 760-939-7395**

**12/11/97**



# **HiSSS NECKDOWN STRATEGY**

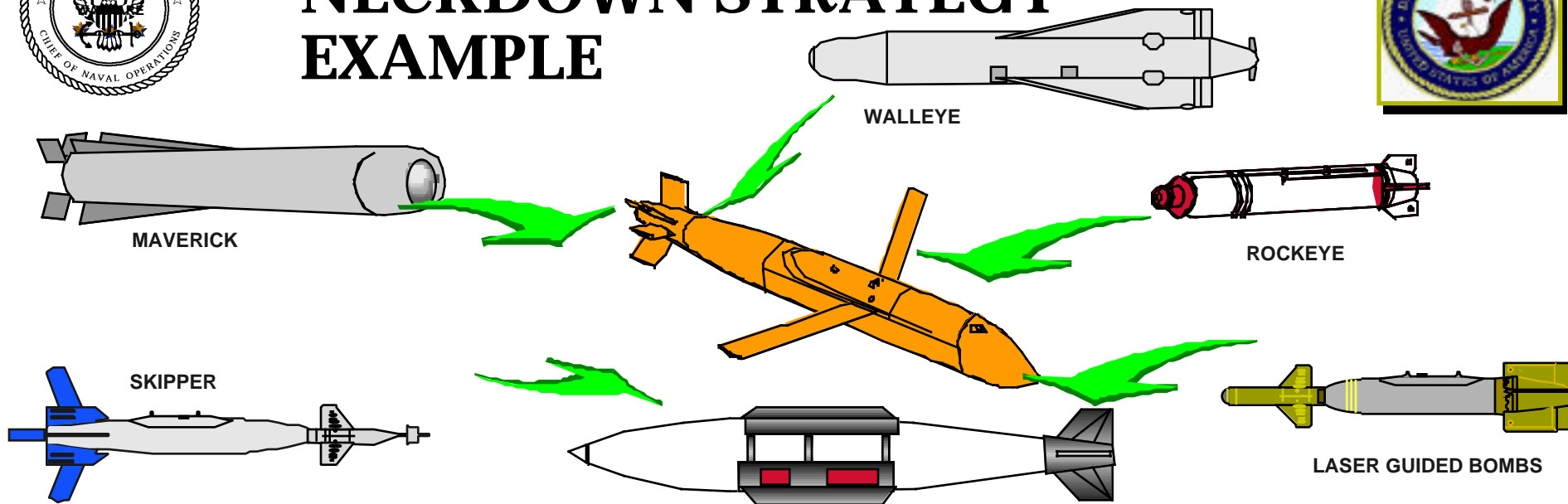
## ***Strategies***

- 1. Reduce Infrastructure and Inventories by building a Common Family of STRIKE Weapons***
- 2. Build upon Existing Technology Programs from DARPA, ONR, Air Force , and NASA***
- 3. Position Program to allow Weapon System IOC at timeframe where existing programs are experiencing drawdown.***

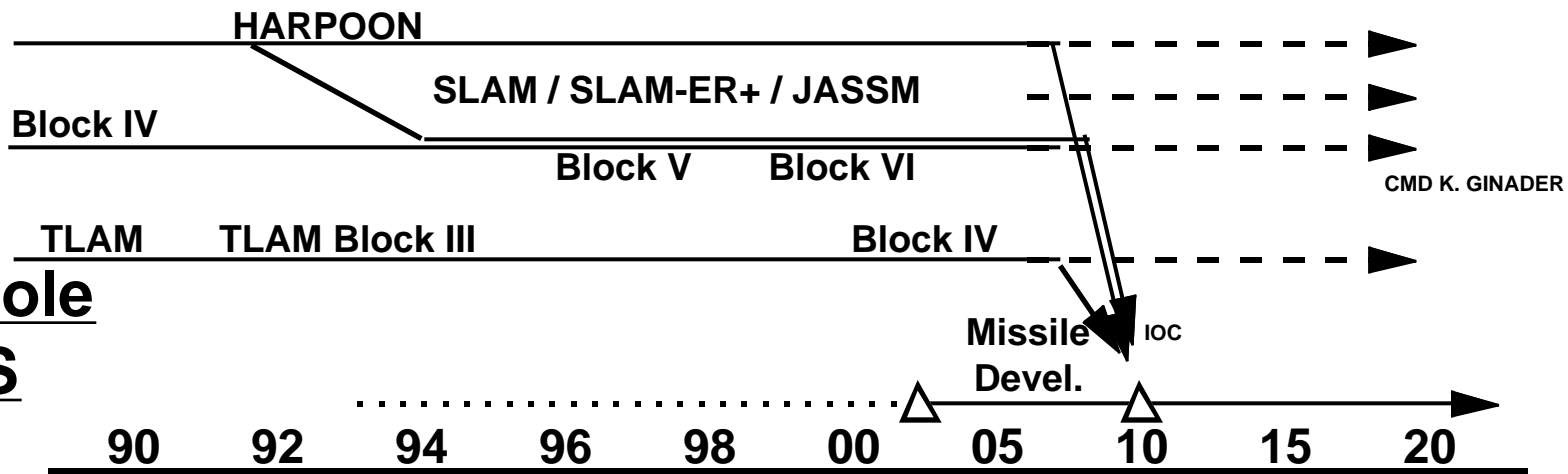




# NECKDOWN STRATEGY EXAMPLE



## SOAD



## Multirole HiSSS

Prepared for OPNAV by NAWCWPNS-  
 S. Lyda 473240D 760-939-7395

12/11/97



# EXISTING HIGH SPEED PROGRAMS



<u>Program</u>	<u>Goal</u>	<u>Sponsor</u>	<u>Product</u>
Low Cost Missile	M4 Axi RJ Demo	Navy ATD	Flight Demo 99
Hypersonic Weapons Tech.	M6 Tech Base	ONR	DCR Freejet 01-02 Low-Drag Airframe Subsystems Dev't
HyTech	M8 Engine	USAF	SCRJ Freejet 01-02
Affordable Rapid Response Missile Demonstration	\$200K / M8	DARPA	Flight Demo tbd
HyperX	Research & Demo	NASA	FY-97 START
HS Strike Mission Analy.	Needs Analysis	N880	MNS Analysis
Time Critical Target Study	Techn'y Roadmap	USAF WL (Eglin)	Study/Demo Follow
Hard & Deeply Buried Target Study	MS 1 AOA (COEA)	USAF ACC	Study

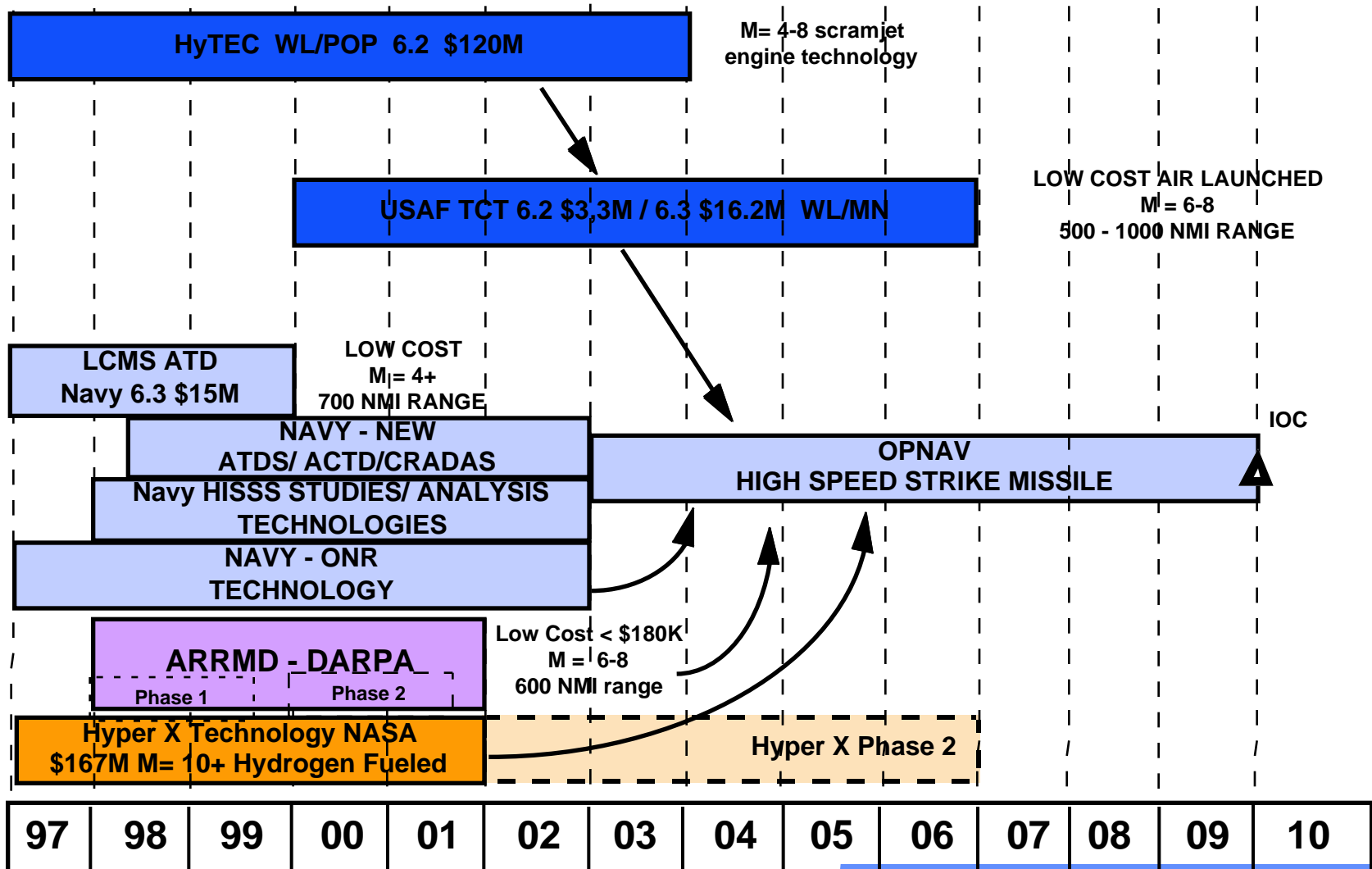
M. MUMFORD

Prepared for OPNAV by NAWCWPNS-  
S. Lyda 473240D 760-939-7395

12/11/97



# DoD High Speed Weapon Programs

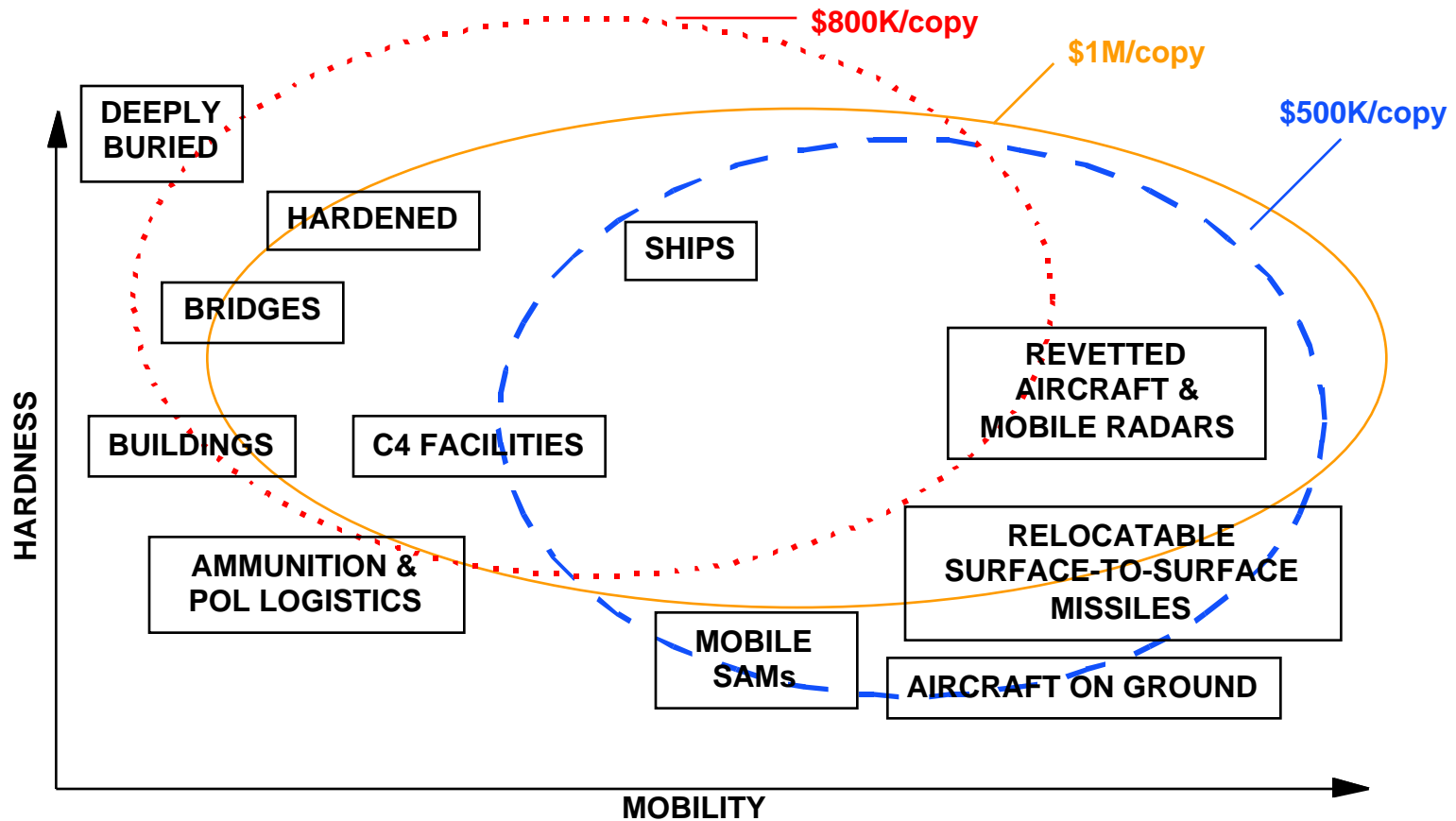


Prepared for OPNAV by NAWCWPNS-  
S. Lyda 473240D 760-939-7395

12/11/97



# AFFORDABILITY VS. TARGET COVERAGE





# FAMILY OF WEAPONS VS. TARGET SET



P  
R  
I  
M  
A  
R  
Y

## AIR LAUNCHED VERSION

Time Critical Targets  
Mobile/Relocatable SAMS  
Relocatable SS Missiles  
Aircraft on the Ground  
Relocatable Radars  
Ships

## SURFACE LAUNCHED VERSION

Ammunition/POL Logistics  
C4 Facilities  
Airfield Facilities  
Port Facilities  
Air Defense Command and Control Nodes  
Industrial Buildings  
Bridges  
Deeply Buried Targets  
Weapons of Mass Destruction (Production,  
Assembly & Storage Facilities)

S  
E  
C  
O  
N  
D  
A  
R  
Y

Ammunition/POL Logistics  
C4 Facilities  
Airfield Facilities  
Port Facilities  
Air Defense Command and Control  
Nodes

Time Critical Targets  
Mobile/Relocatable SAMS  
Relocatable SS Missiles  
Aircraft on the Ground  
Relocatable Radars  
Ships

Prepared for OPNAV by NAWCWPNS-  
S. Lyda 473240D 760-939-7395

12/11/97



# OPNAV HiSSS Roadmap

**16 September 1997**

**Stephen F. Lyda  
NAWCWPNS 473A30D  
760-939-7395**

**Prepared for OPNAV by NAWCWPNS-  
S. Lyda 473240D 760-939-7395**

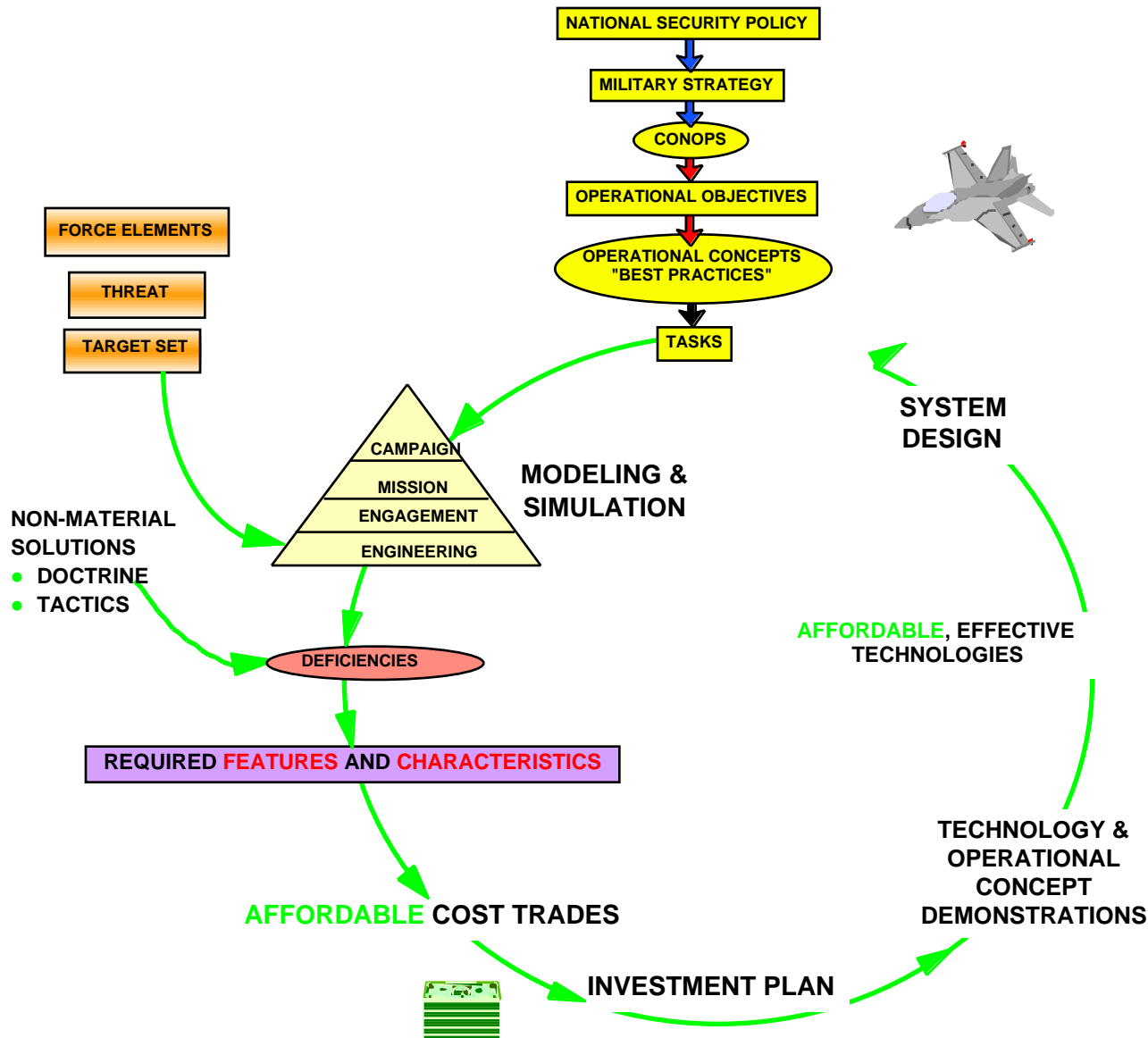
**12/11/97**



# HiSSS Approach

- **Model HiSSS Program after JSF Program**
  - Form Industry/Government IPT's in the Areas of Requirements, Systems, Technologies, & Programs
  - Utilize Top-Down Strategy-to-Task (STT) Requirements Analysis Process
  - Foster A Joint-Service Analysis for Common Requirements
  - Refine MNS Requirements Through Implementation Of STT Process
  - Develop Concept Of Operations - Including Mission Selection, Mission Planning, BMC4I, and Tactical Employment
- **Focus on System Level Concepts**
  - Battle Space Integration, Platforms, Weapons
  - Develop A Validated Modeling And Simulation Environment For High Speed Strike Analyses
- **Support Program with Technology Maturation Efforts**
  - Align Existing Technology Efforts With Requirements as validated
  - Conduct Technology & System Unique Demonstrations
- **Implement Streamlined Acquisition Processes**
- **World Wide Web Information Page -**

# STRATEGY-TASK-TECHNOLOGY



## PACKARD COMMISSION

- GET WARFIGHTER AND TECHNOLOGIST TOGETHER TO ENABLE LEVERAGING COST-PERFORMANCE
- APPLY TECHNOLOGY TO LOWER COST OF THE SYSTEM NOT JUST INCREASE ITS PERFORMANCE
- ADEQUATELY MATURE TECHNOLOGY PRIOR TO ENTERING E&MD





# Acquisition Initiatives



- **Near Term Approach**

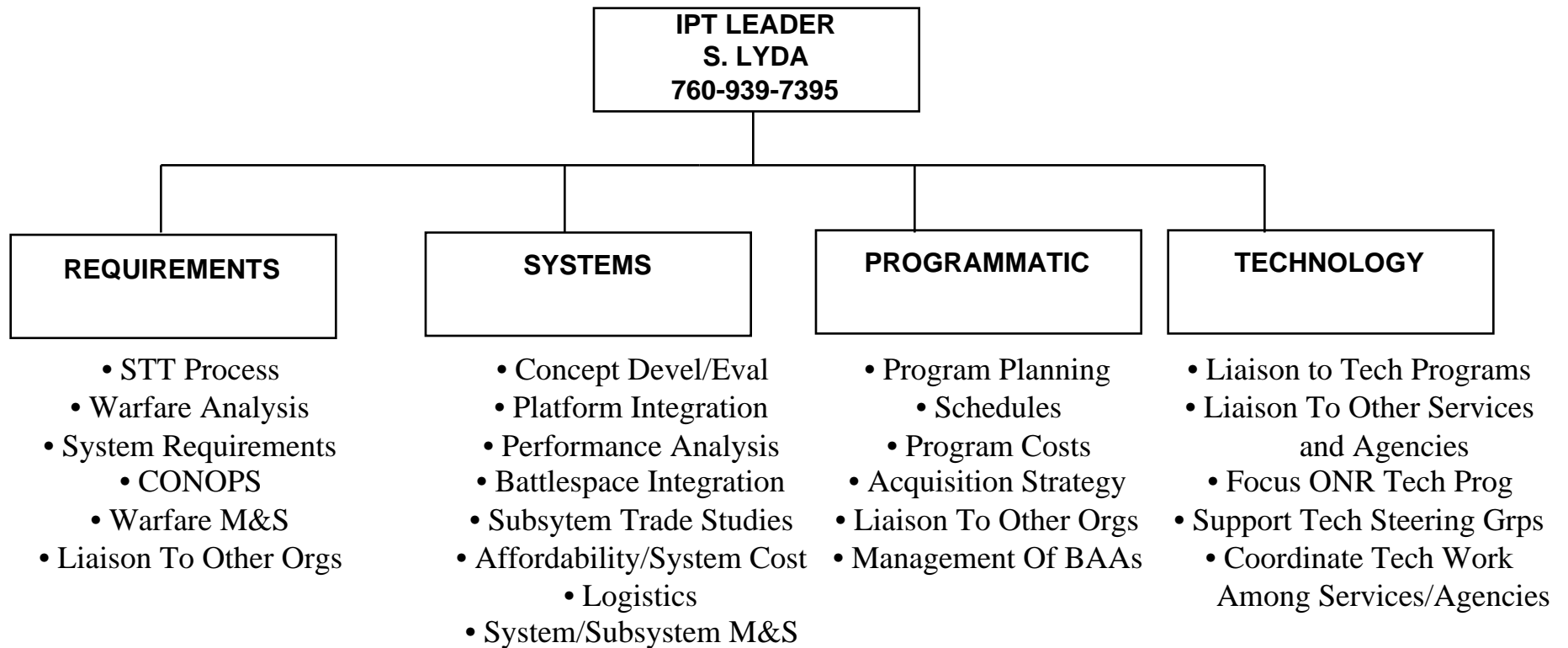
- **CRADA's for IPT efforts in Requirements, Technologies, Systems**
- **Cooperative Government/ Industry ATD/ACTD's maturing technologies for HiSSS**
- **RFI in FY98 for ' Notional High Speed Strike System Concepts' for System Effectiveness Studies.**
- **Cost-Performance Trades**

- **Future Streamlining Initiatives**

- **Contractor Proposed Sow /CDRL'S in Response to Jointly Developed RFP**
- **Succinct RFP**
  - » **Shared Evaluation Standards**
  - » **Multi-Year Procurement**
  - » **Paperless / Electronic RFP**
- **Commercial Standards, Best Commercial/Industry Practices**



# HiSSS IPT Tasks





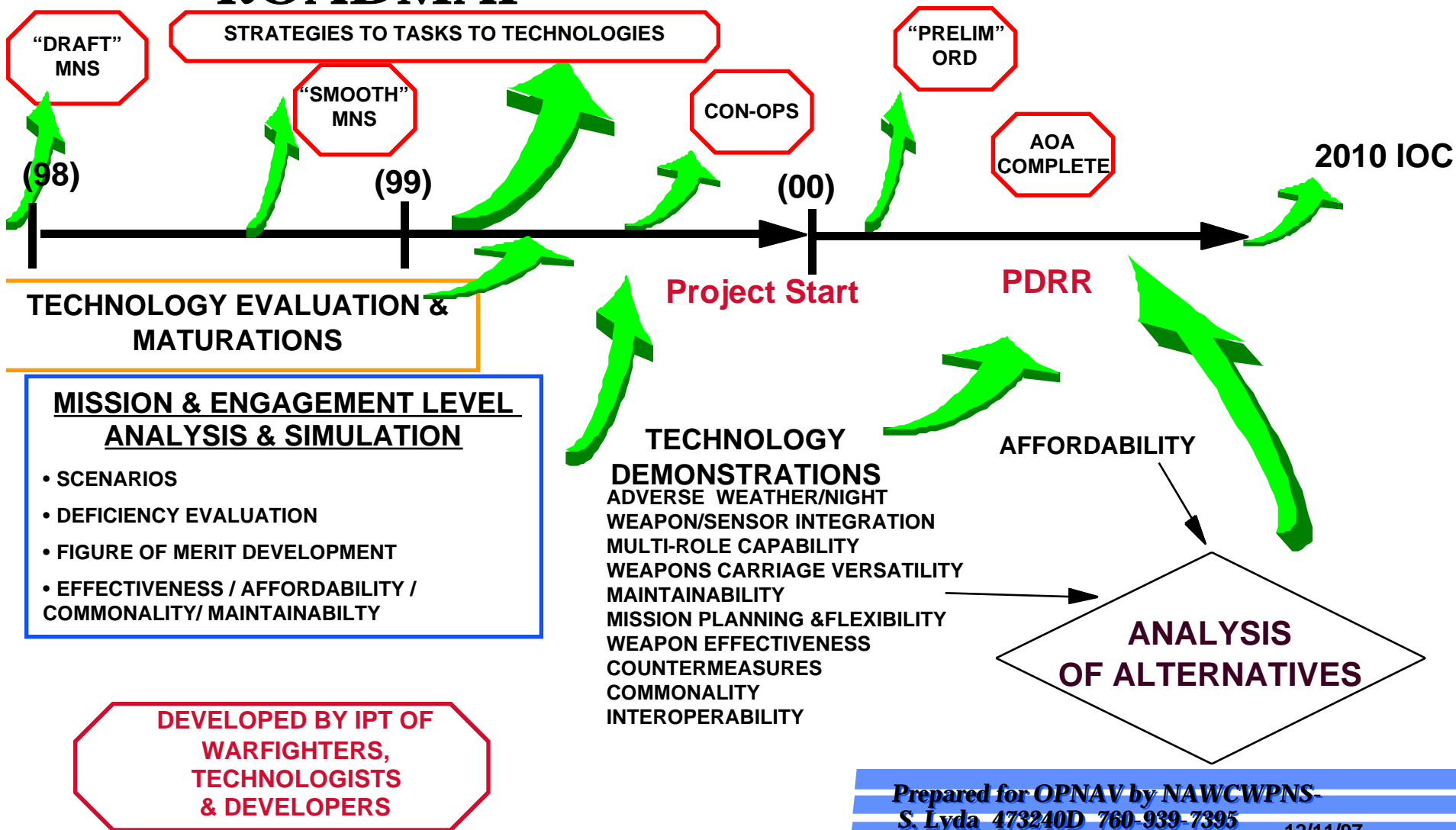
# POINTS OF CONTACT



- **Stephen F. Lyda - HiSSS POC Lead 760-939-7395**
- **Bill McBride - Systems POC 760-939-3998**
  - **Dr. Dave Netzer NPS Propulsion - 408-654-2098**
  - **Dr. Mike White JHU/APL Propulsion - 301-953-5187**
  - **Dr. Conrad Newburry NPS Structures - 408-654-2892**
- **Dr. Jim De Santi- Requirements POC 760-939-1281**
  - **CDR J. Gattuso NSAWC**
  - **D. Cowles JHU/APL**
  - **R. Ackerman NAWC-AD**
  - **D. Larsen CNA**
  - **W. Harman NSWC-DD**



# HiSSS REQUIREMENTS, VALIDATION & TECHNOLOGY ROADMAP



Prepared for OPNAV by NAWCWPNS-  
S. Lyda 473240D 760-939-7395

12/11/97



# SUMMARY



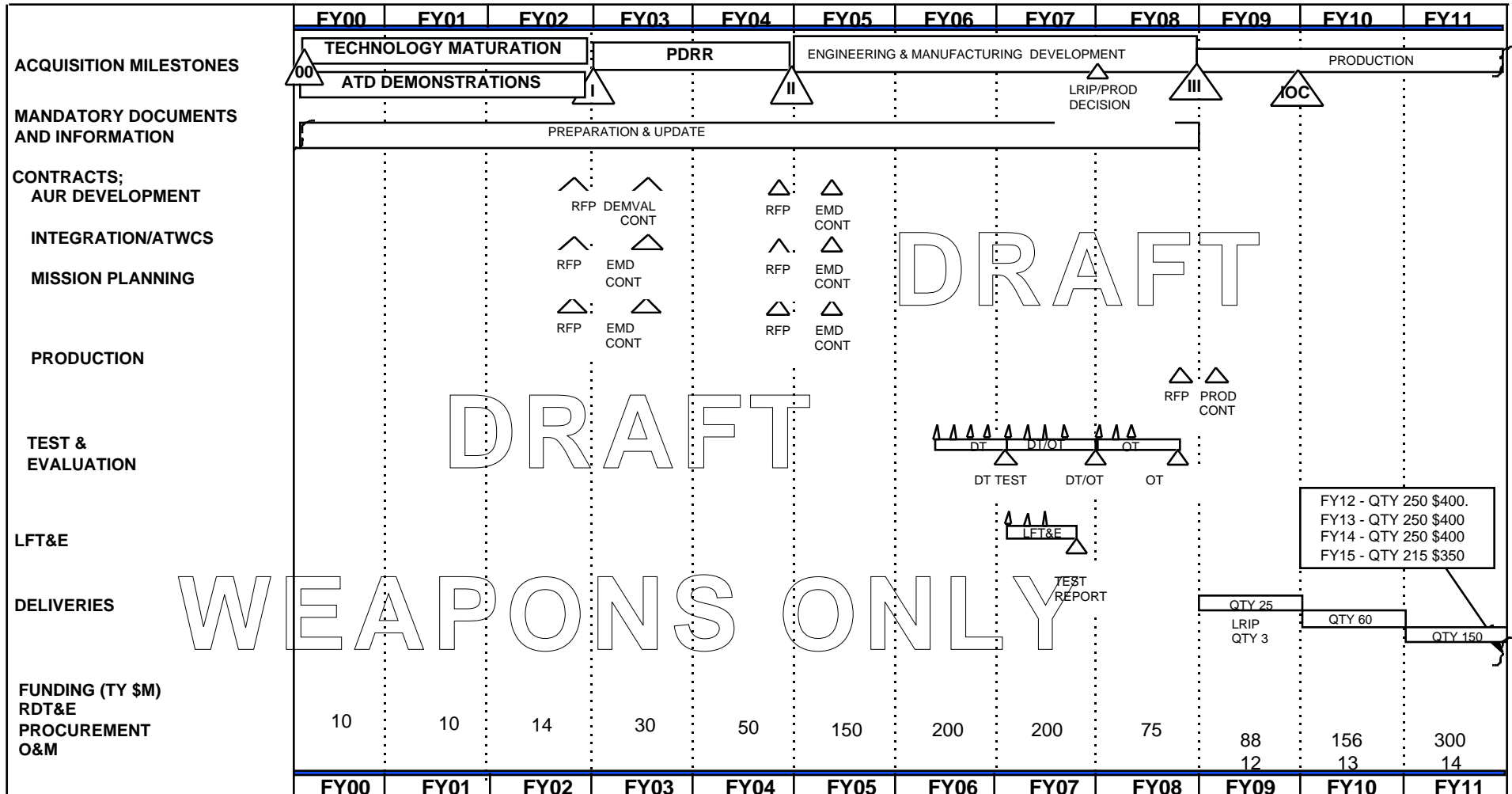
- **The HiSSS Initiative is Responsive to the ‘HIGH SPEED STRIKE’ MNS**
- **The HiSSS Initiative is Jointly Supported by CINC’s, & OPNAV N85/86/87/88**
- **HiSSS Program is looking to provide a substantial Cost Saving to Navy weapons systems through a neckdown strategy from multiple weapons to a common weapon family**
- **The HiSSS Initiative is open to Innovative Concepts, Cooperative Efforts, Technology proposals in FY98 - 02**



# HiSSS DEVELOPMENT CYCLE (NOTIONAL Air Launched)



DRAFT 17 JULY 97



DRAFT

DRAFT

WEAPONS ONLY

FY12 - QTY 250 \$400.  
FY13 - QTY 250 \$400  
FY14 - QTY 250 \$400  
FY15 - QTY 215 \$350

QTY 25  
LRIP  
QTY 3

QTY 60

QTY 150

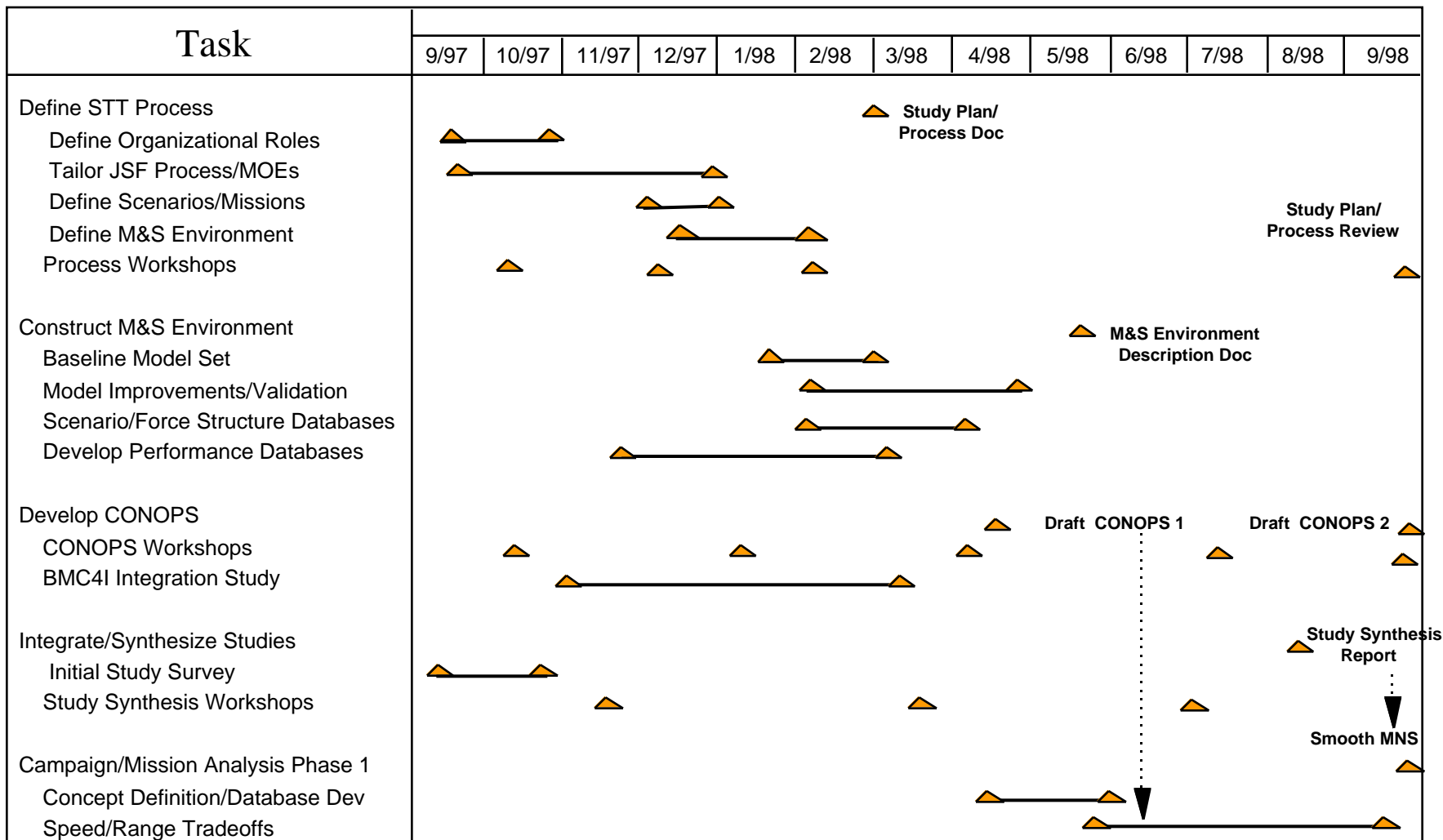
g:\peocul\fasthawk\structure\fsthkt4.ppt

▲ FLIGHT TEST

Prepared for OPNAV by NAWCWPNS-  
S. Lyda 473240D 760-939-7395 12/11/97



# FY 98 R-IPT Task Plan



Prepared for OPNAV by NAWCWPNS-  
 S. Lyda 473240D 760-939-7395

12/11/97