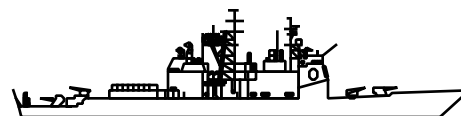
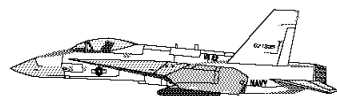
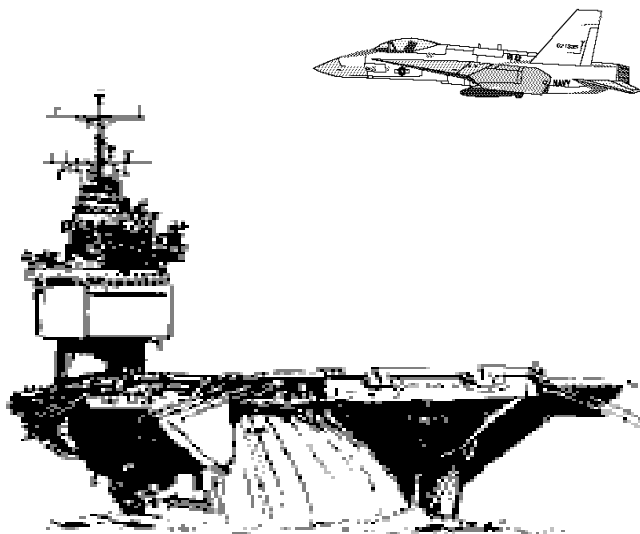




OPNAV HIGH SPEED STRIKE SYSTEM (HiSSS) ROADMAP

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

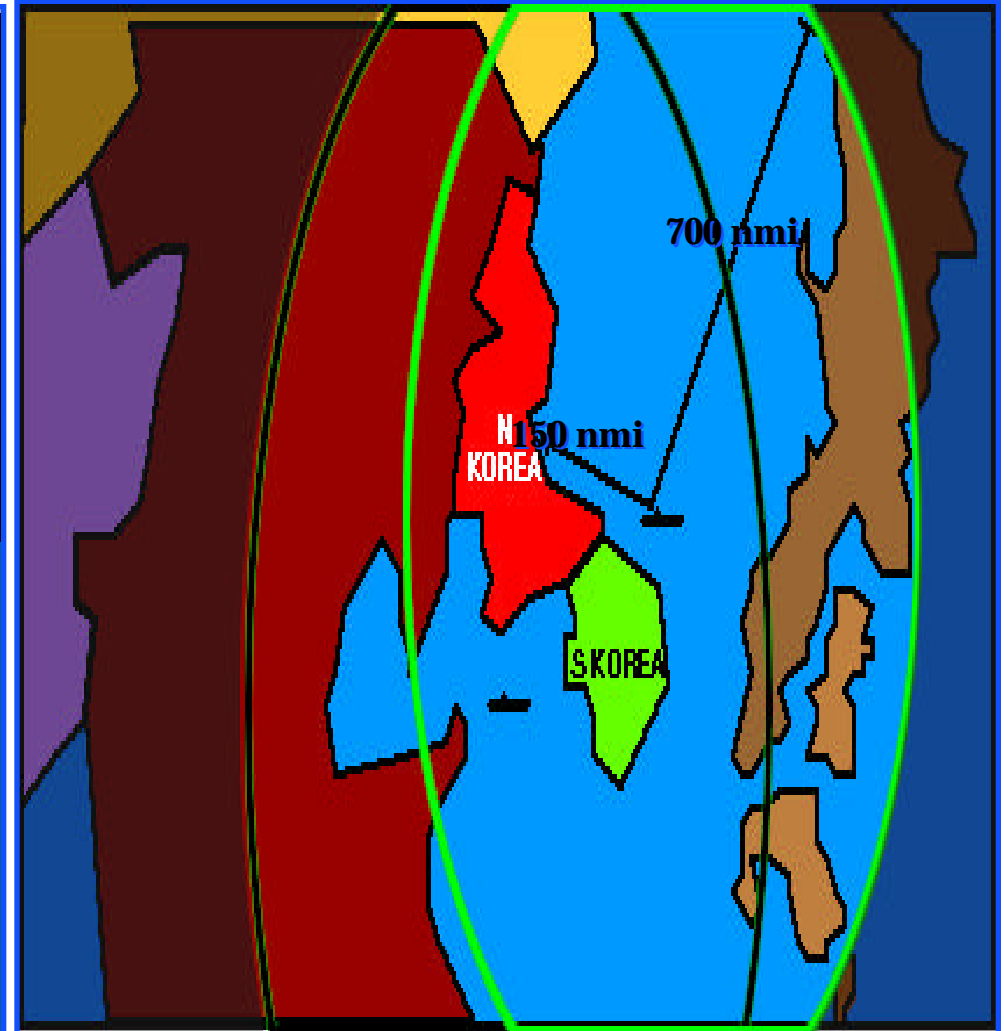
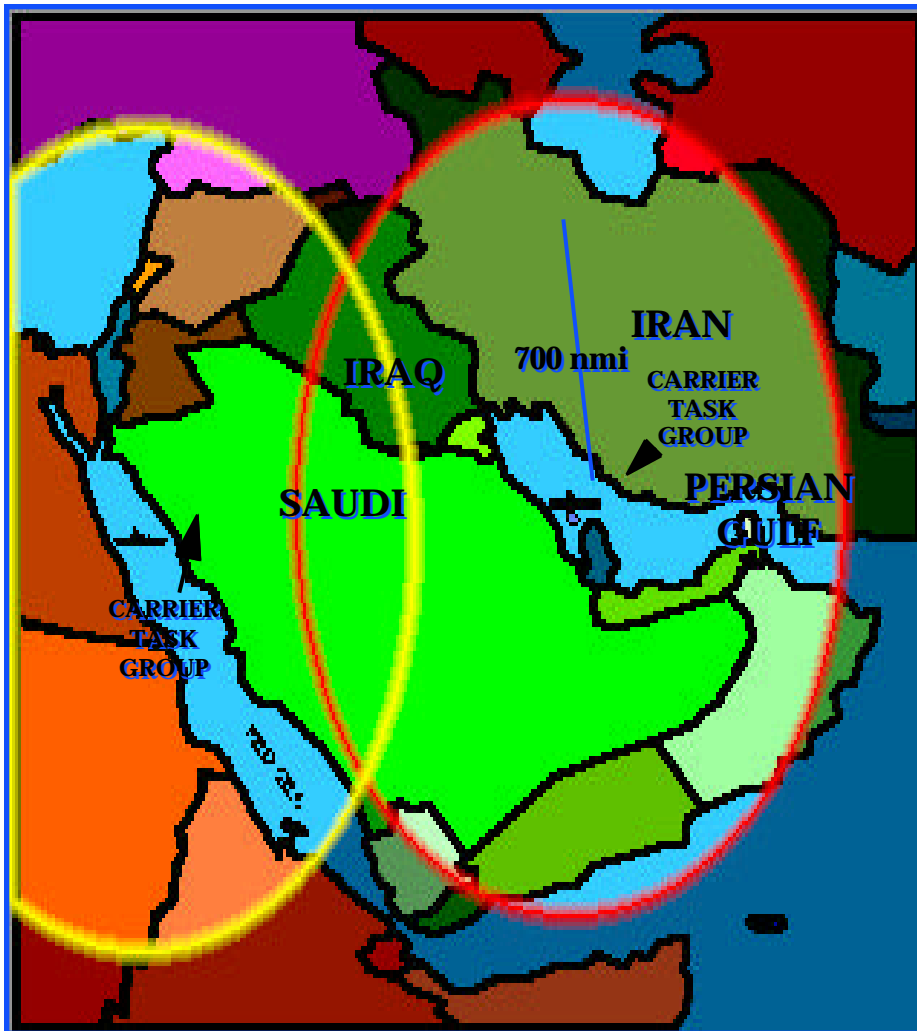
Prepared for OPNAV by NAWCWPNS-
S. Lyda 473240D 760-939-7395

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

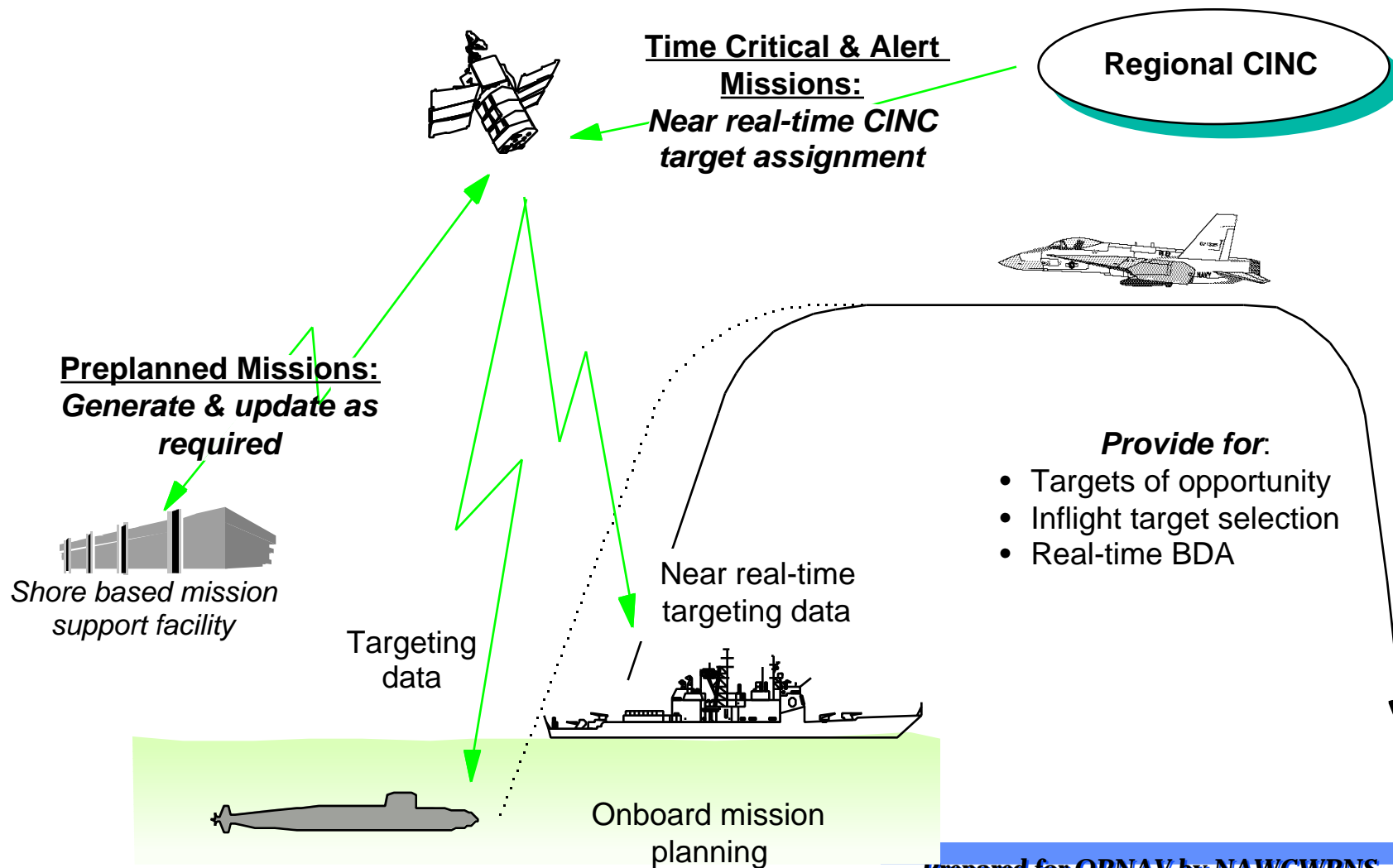
- "FIRST DAY, FIRST STRIKE" / INTERDICTION MISSIONS
 - » PLANNED TARGETING PACKAGES
 - » STATIC HIGH VALUE, HARDENED FIXED TARGETS
- THEATER RESPONSE
 - » UNPLANNED TARGETING PACKAGES
 - » RAPID RESPONSE TO EVOLVING TARGETS, THREATS, OPERATIONAL REQUIREMENTS
 - » NEAR REAL-TIME TARGETING DATA ASSIGNMENT,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





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.***

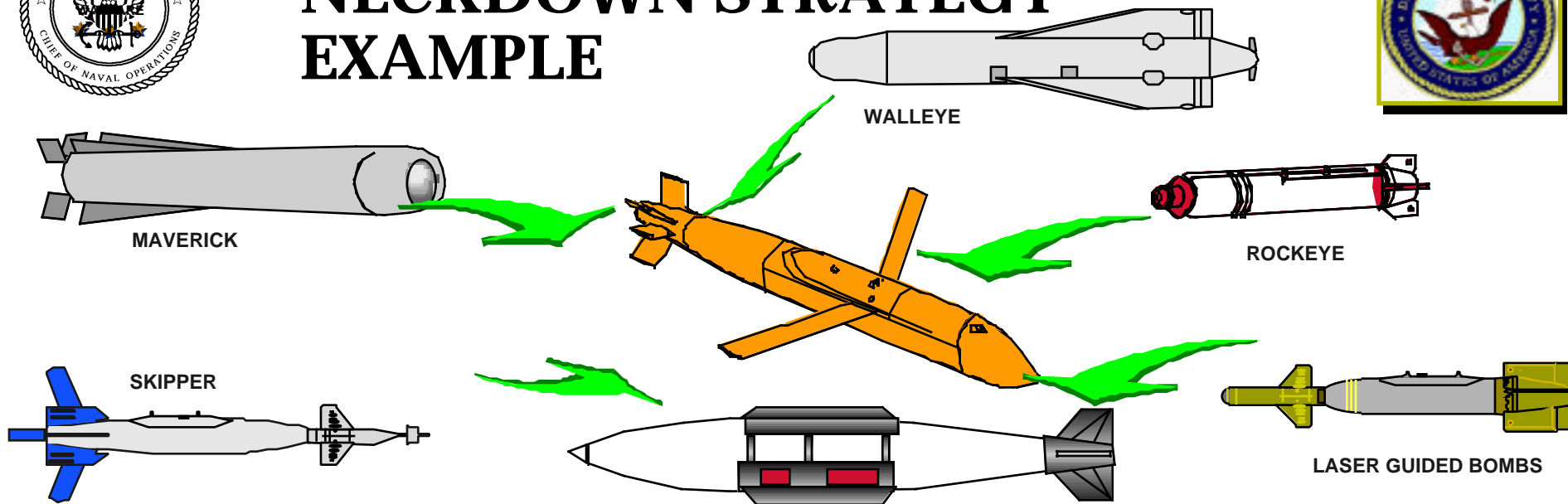
Prepared for OPNAV by NAWCWPNS-

S. Lyda 473240D 760-939-7395

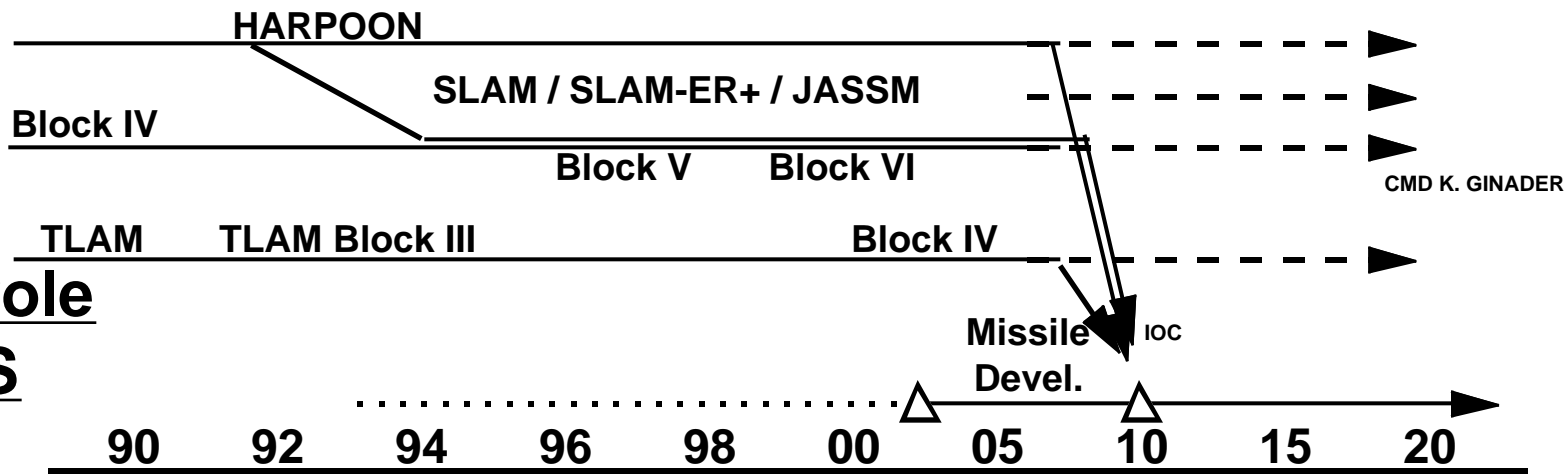
12/11/97



NECKDOWN STRATEGY EXAMPLE



SOAD



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

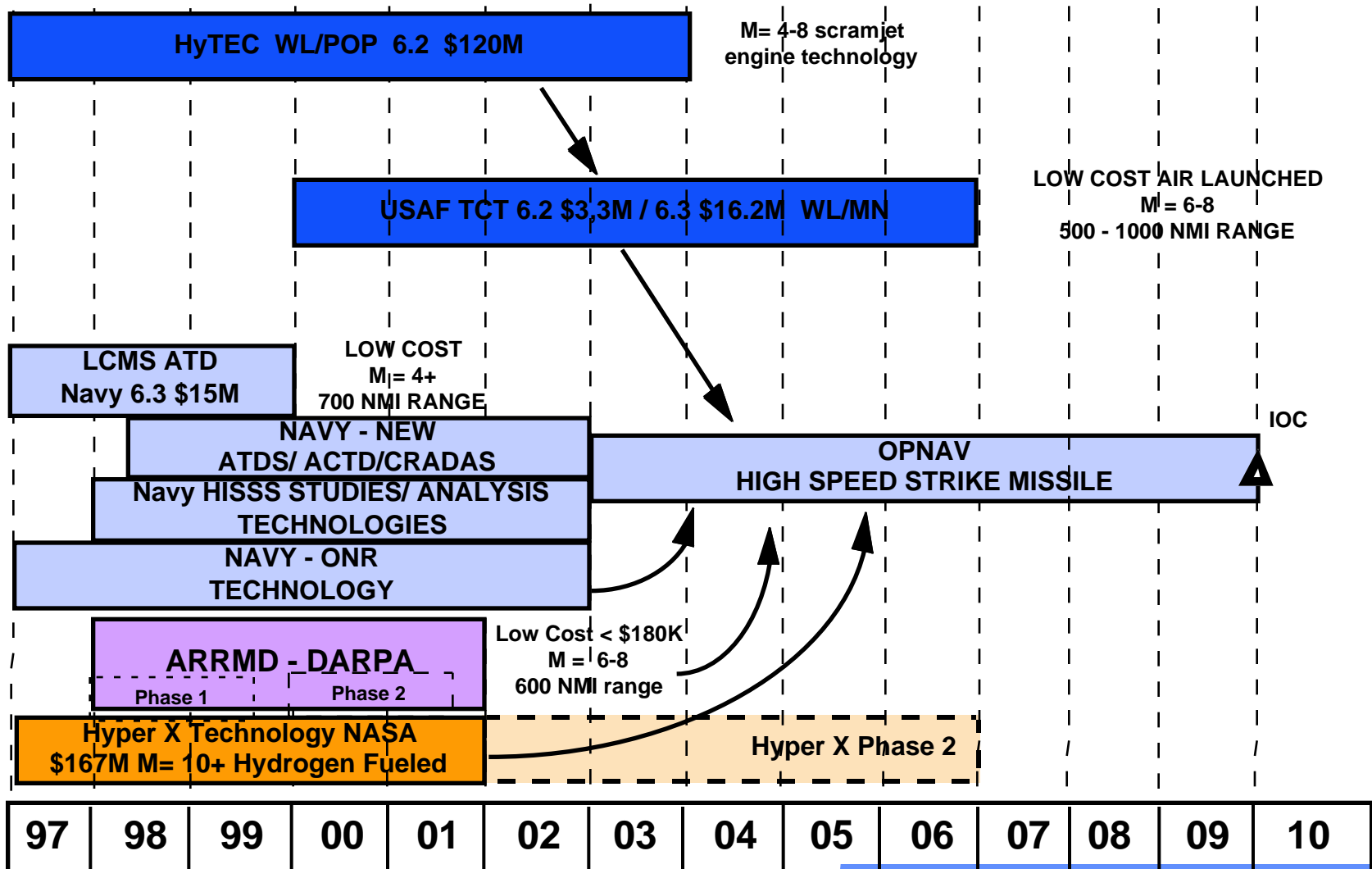
Prepared for OPNAV by NAWCWPNS-

S. Lyda 473240D 760-939-7395

12/11/97



DoD High Speed Weapon Programs

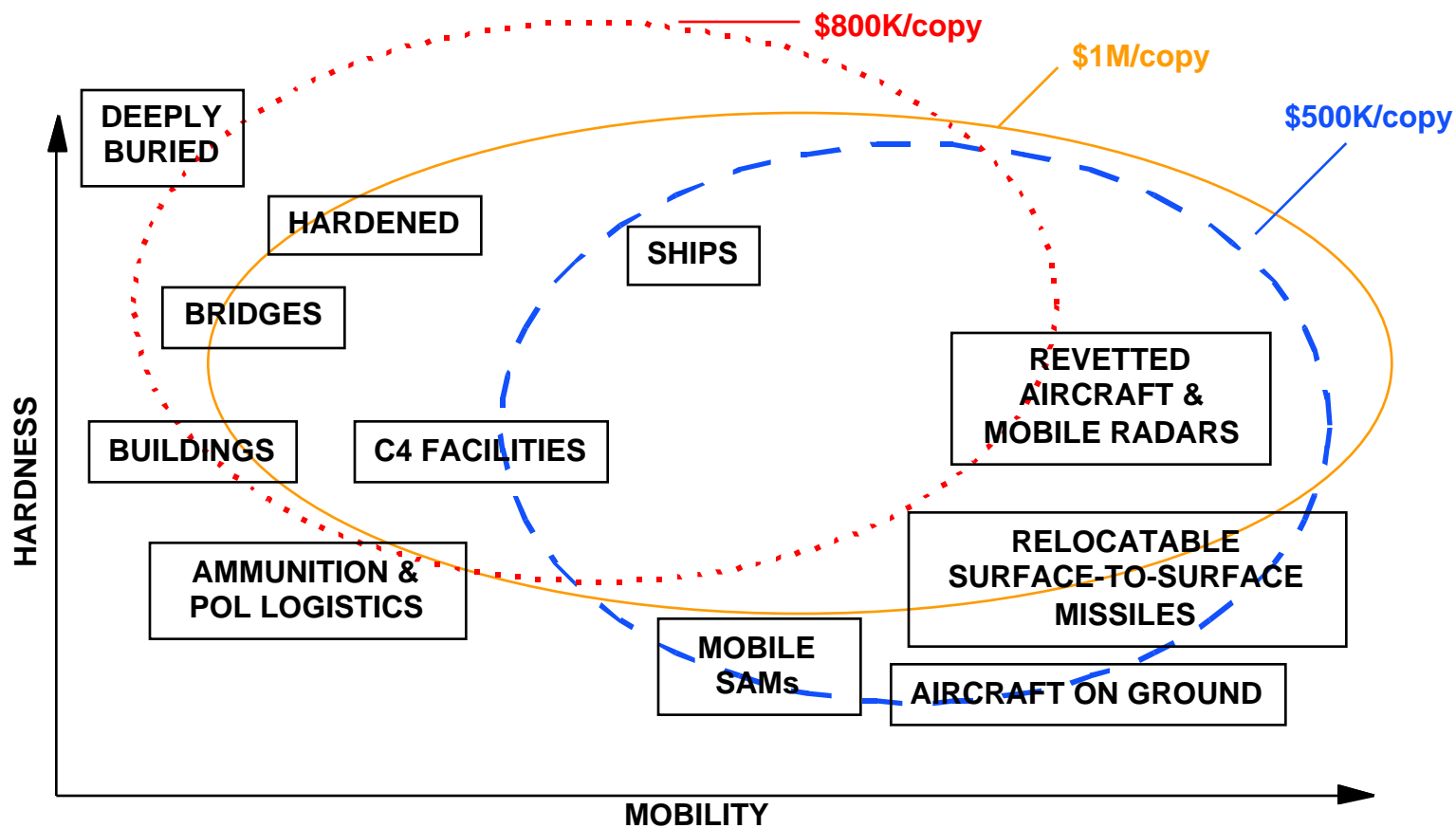


Prepared for OPNAV by NAWCWPNS-
S. Lyda 473240D 760-939-7395

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**

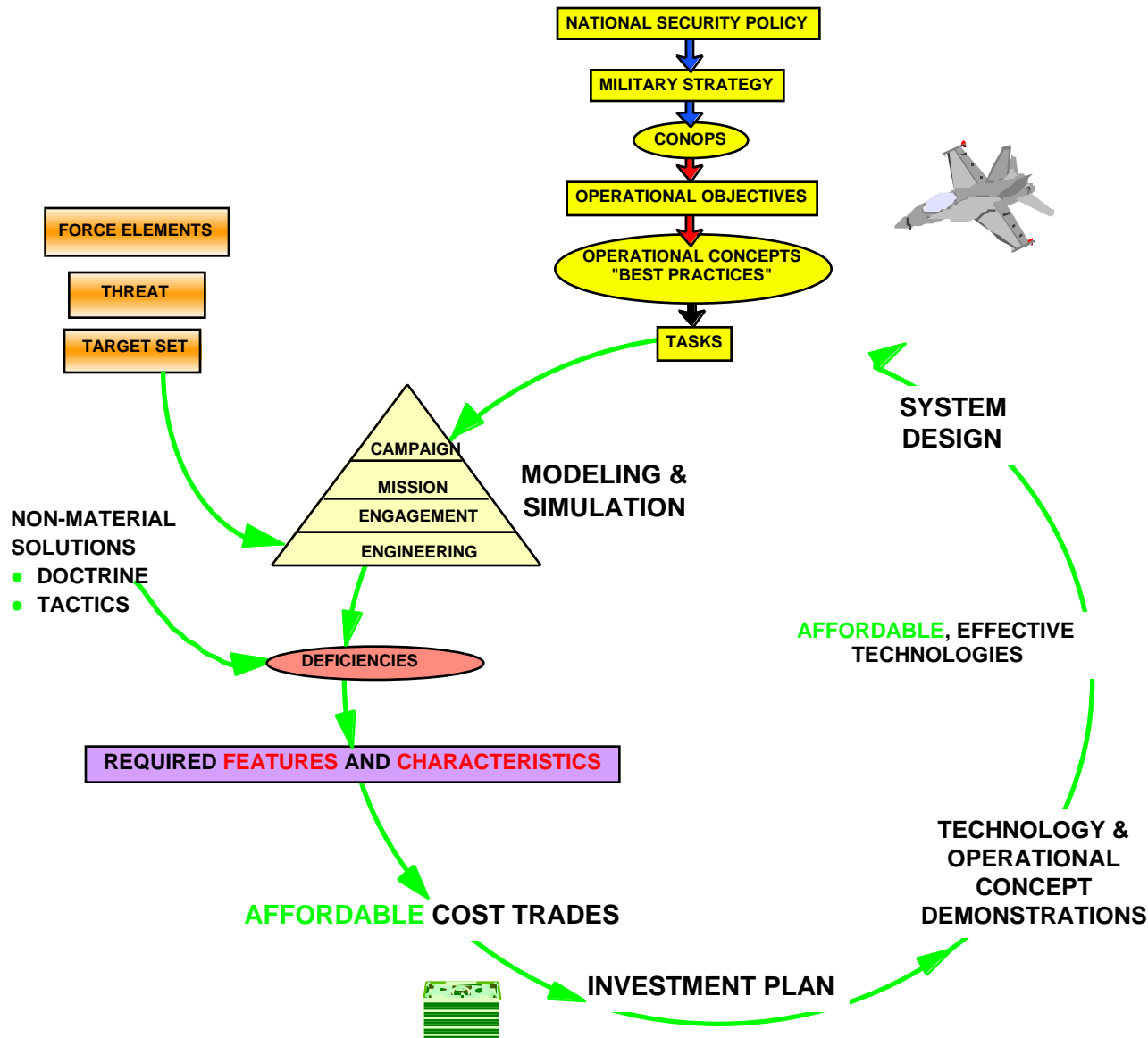
12/11/97



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**

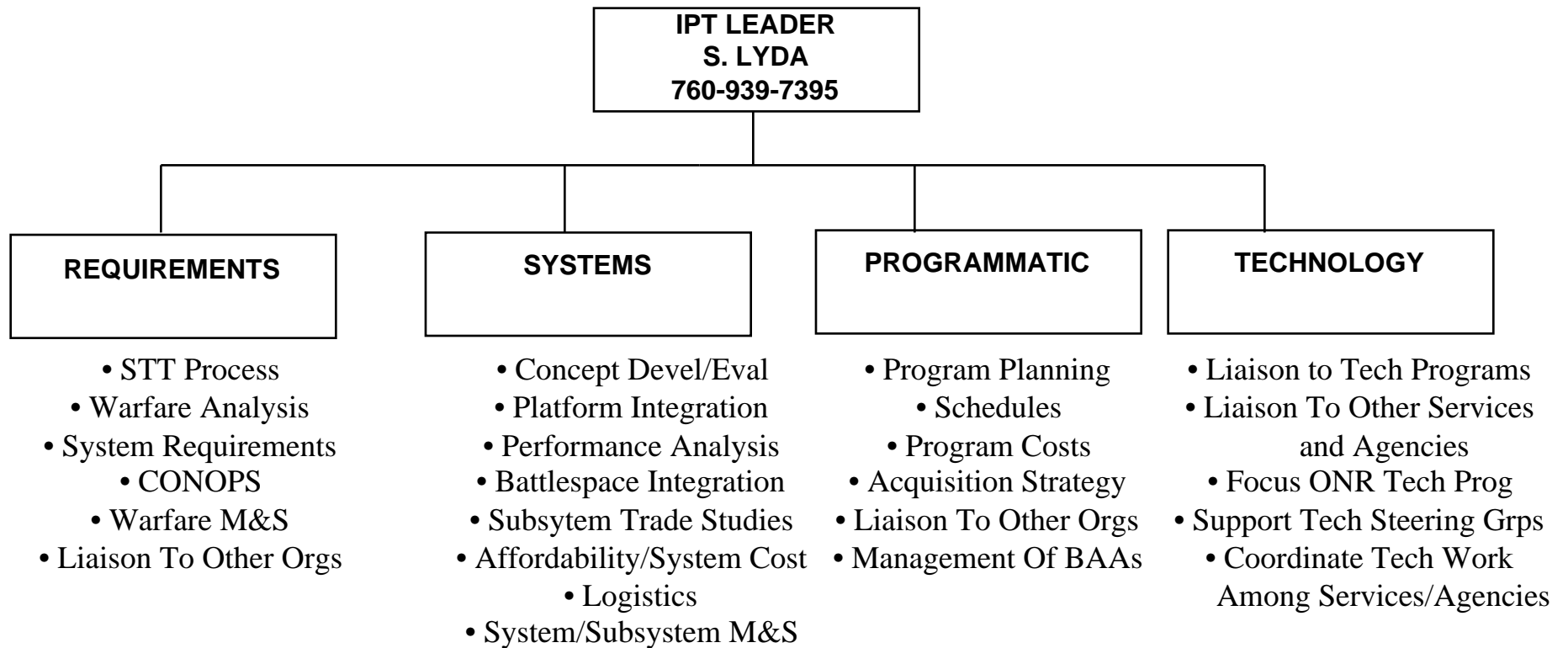
- **CRADA's for IPT efforts in Requirements, Technologies, Systems**
- **Cooperative Government/ Industry ATD/ACTD's maturing technologies for HiSSS**
- **RFI in FY98 for ' Notional High Speed Strike System Concepts' for System Effectiveness Studies.**
- **Cost-Performance Trades**

- **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





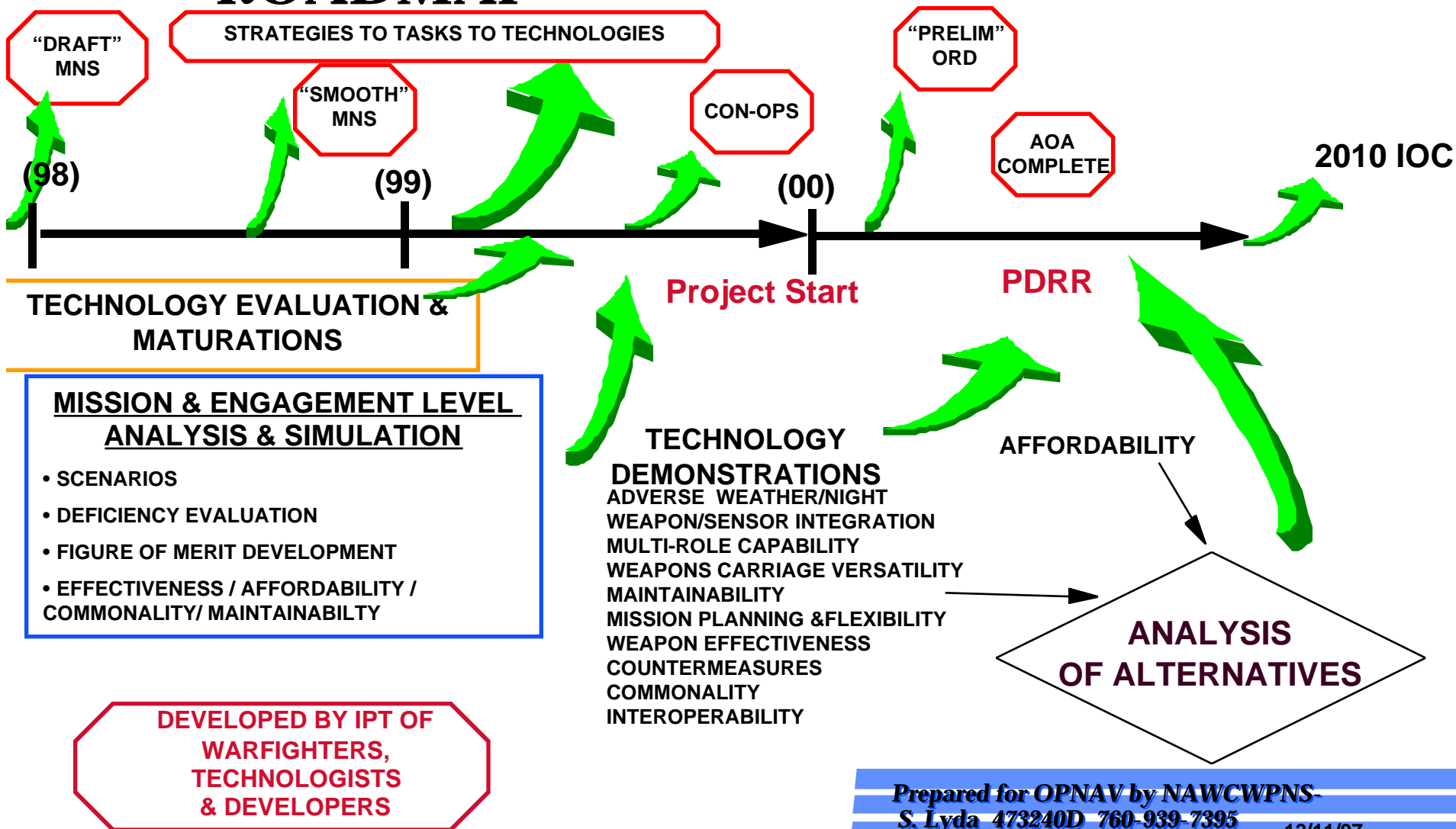
POINTS OF CONTACT



- **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



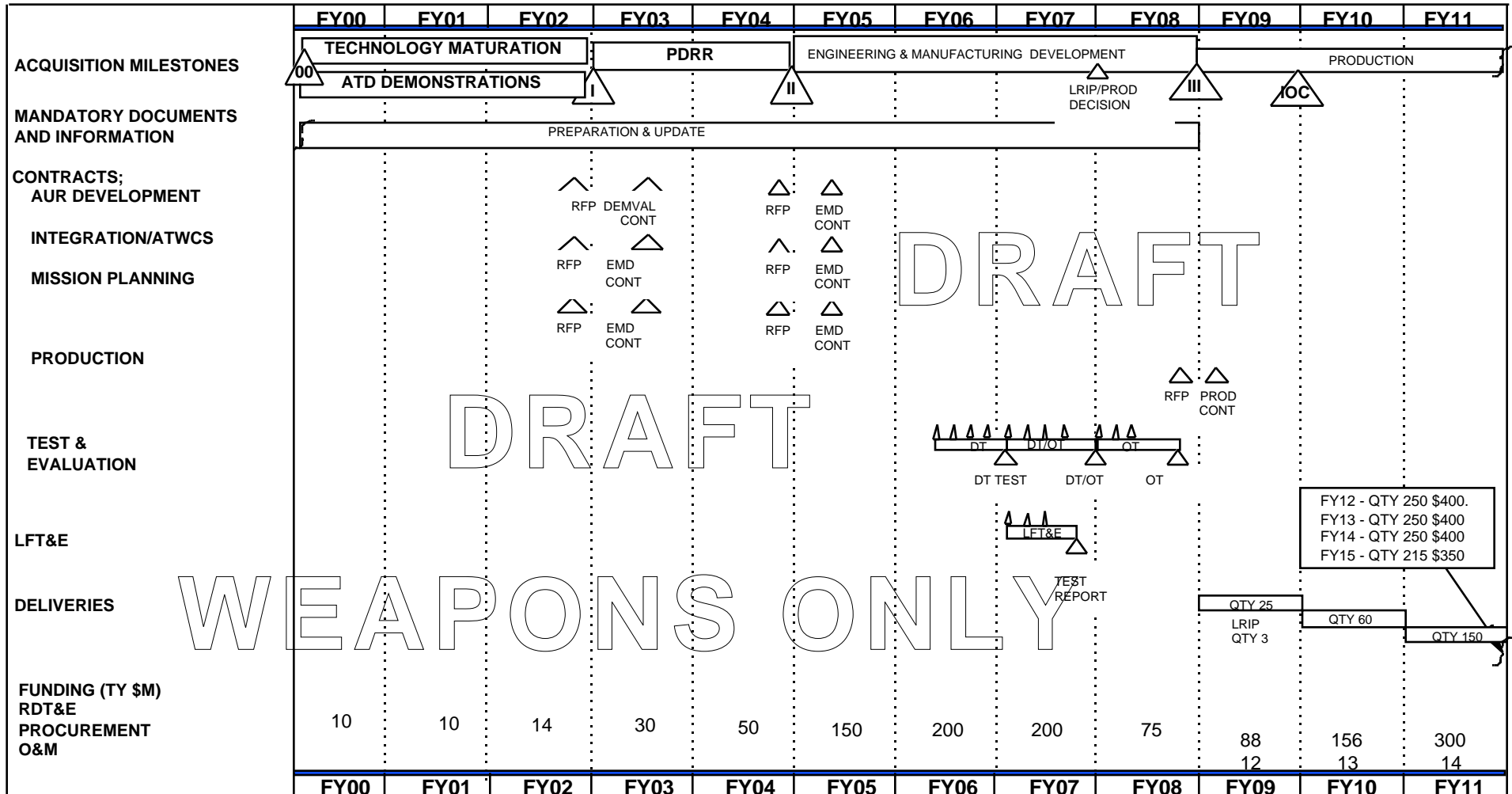
- **The HiSSS Initiative is Responsive to the ‘HIGH SPEED STRIKE’ MNS**
- **The HiSSS Initiative is Jointly Supported by CINC’s, & OPNAV N85/86/87/88**
- **HiSSS Program is looking to provide a substantial Cost Saving to Navy weapons systems through a neckdown strategy from multiple weapons to a common 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

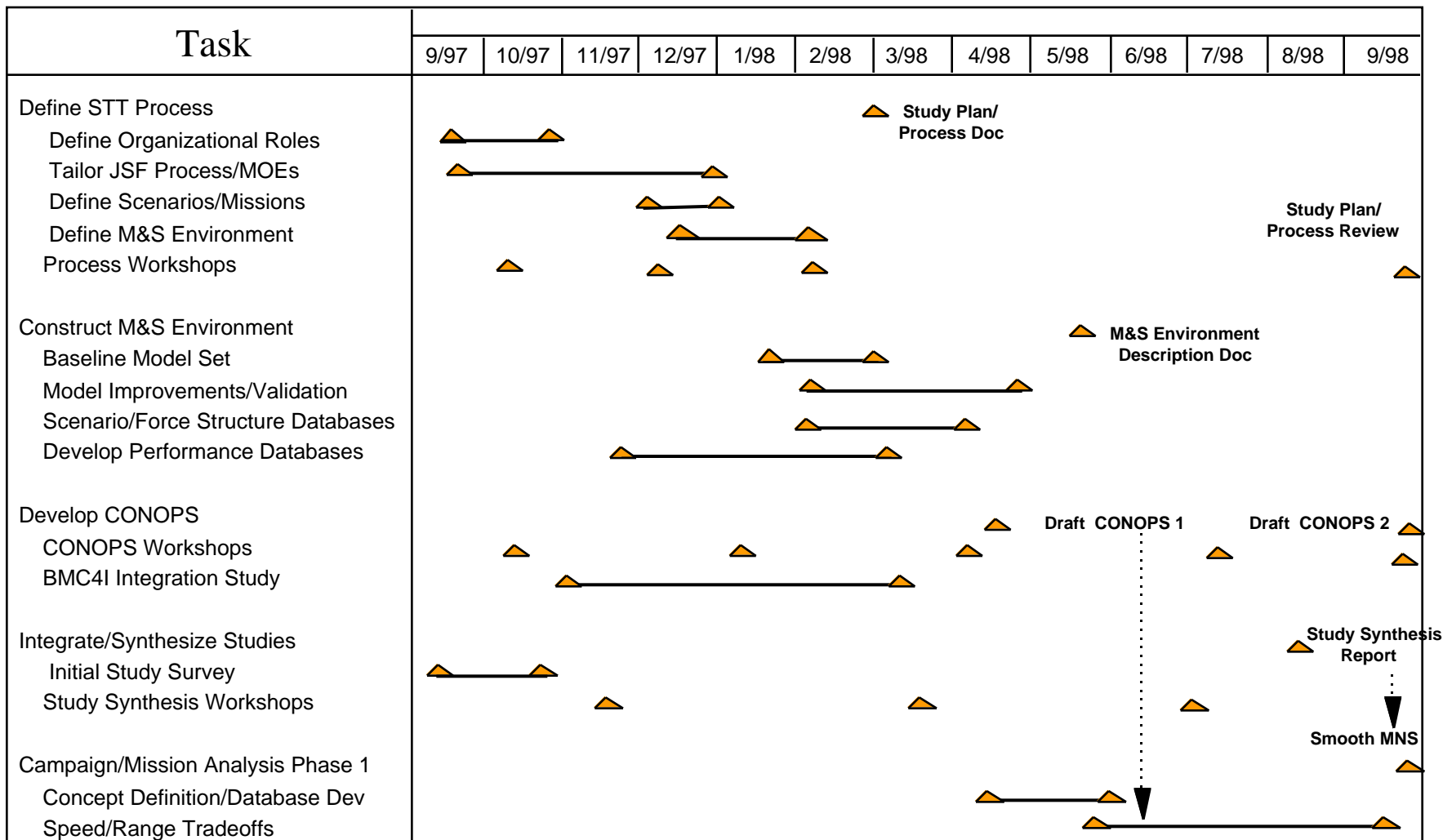
g:\peocul\fasthawk\structure\fsthkt4.ppt

▲ 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