Agenda

- A new political and military environment
- Additional requirements–

  "Three oceans with a one-an-a-half ocean fleet"
- A cost effective solution
  - Lead ship operational experience-production status
  - Offensive capability
    - Surface warfare
    - AAW
    - ASW
    - MCM
- Cost effectiveness
  - Manpower
  - Dollars
- Global reach/forward deployment
- Technological supremacy
- Boeing Marine Systems proposal

RECENT DISCUSSIONS

WASHINGTON, D.C.

HON. JOSEPH DOYLE	ASN (MANPOWER, RESERVE & LOGISTICS)
VADM JAMES DOYLE	OP-03
RADM H. SCHRADER	OP-37
ADM A. J. WHITTLE	CHIEF, NAVAL MATERIAL
VADM C. R. BRYAN	COM NAV SEA
RADM J. D. BEECHER	SURFACE COMBATANT SHIPS – NAVSEA

PACIFIC

VADM E. WALLER	COM 3RD FLEET
CINC PAC STAFF	J-46 et al
CINC PAC FLT STAFF	N6

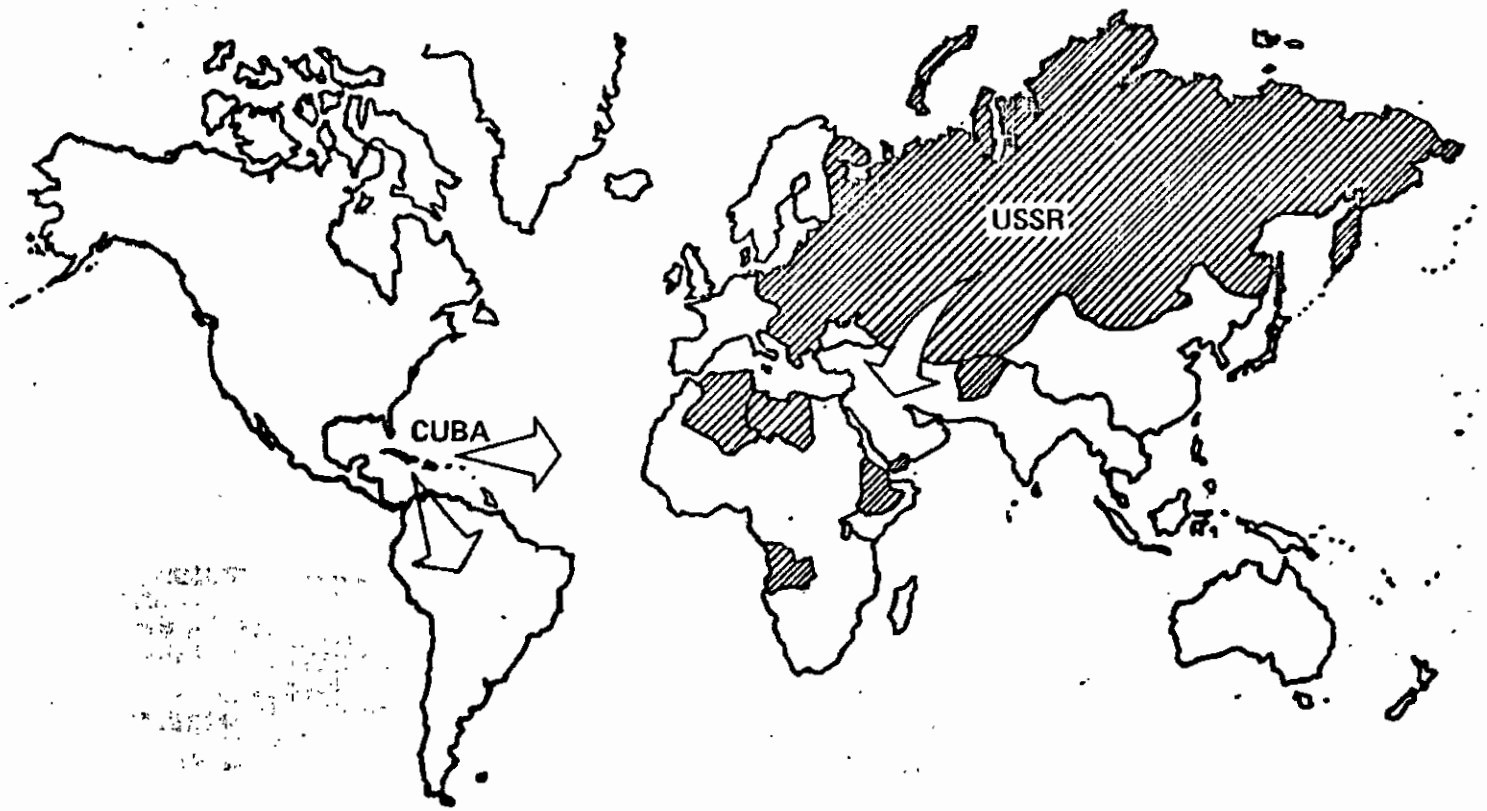
MEDITERRANEAN

ADM W. J. CROWE	CINC SOUTH
VADM W. N. SMALL	COM SIXTH FLEET
RADM D. G. McCORMICK	DEP COM STRIKE FORCE SOUTH
RADM J. METCALF	COM CRU DES GRP 8
CAPT D. STEFFERUD	SERVICE FORCE 6th FLT
ADM MONASSI, ITALIAN NAVY	COM ALLIED NAVAL FORCES, SO. EUROPE

ATLANTIC

SURFLANT STAFF	
SURFACE WARFARE DEV. GRP	
PHM-1 CREW	
VADM J. JOHNSON	COM NAV SURFLANT

Soviet Expansionism



SECDEF Harold Brown
FY 81 Annual Report
29 January 1980

Areas of International Turbulence *

- Middle East
- Caribbean
- Southeast Asia
- Korea
- Africa

* SECDEF Harold Brown
FY 81 annual report
29 January 1980

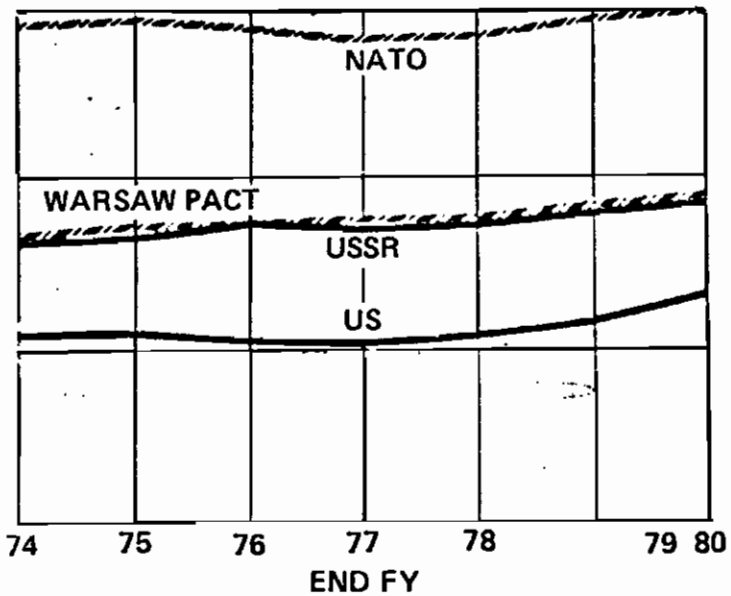
General-Purpose Naval Force Role*

- Hold Soviet surface and submarine forces north of GIUK Line
- Establish control of Mediterranean
- Close Soviet exits to Pacific from
  - Sea of Okhotsk
  - Sea of Japan
- Protect sea lines of communication

* SECDEF Harold Brown
FY 81 annual report
29 January 1980

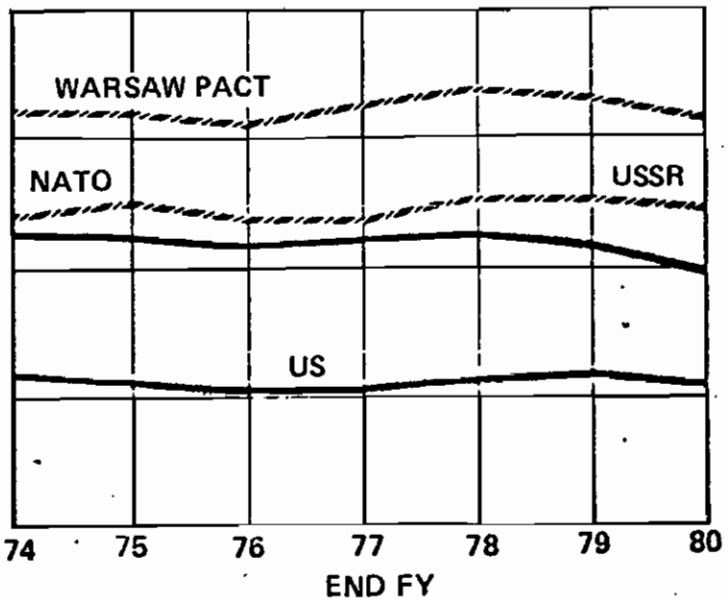
Force Level Comparison

PRINCIPAL SURFACE COMBATANTS*



* Includes light frigates and above
active force only for US, USSR, and Warsaw Pact
NATO forces include reserve forces

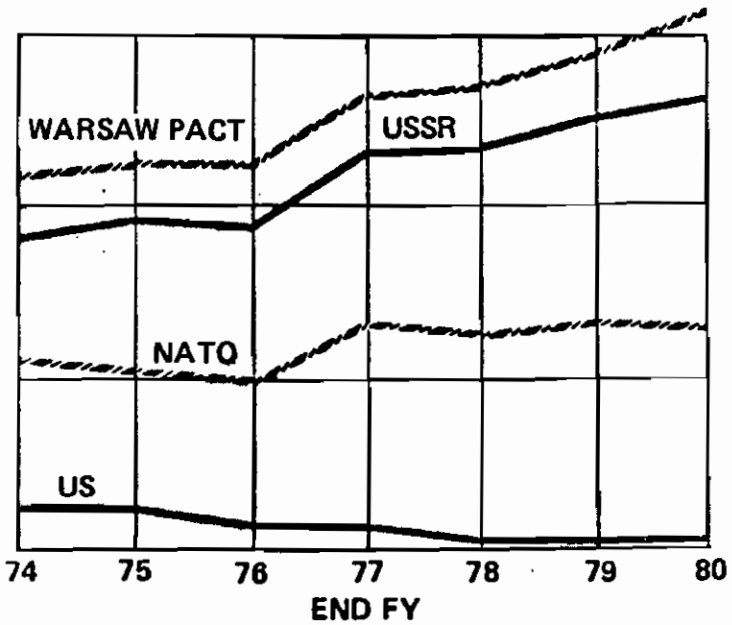
AMPHIBIOUS SHIPS*



* Active force only

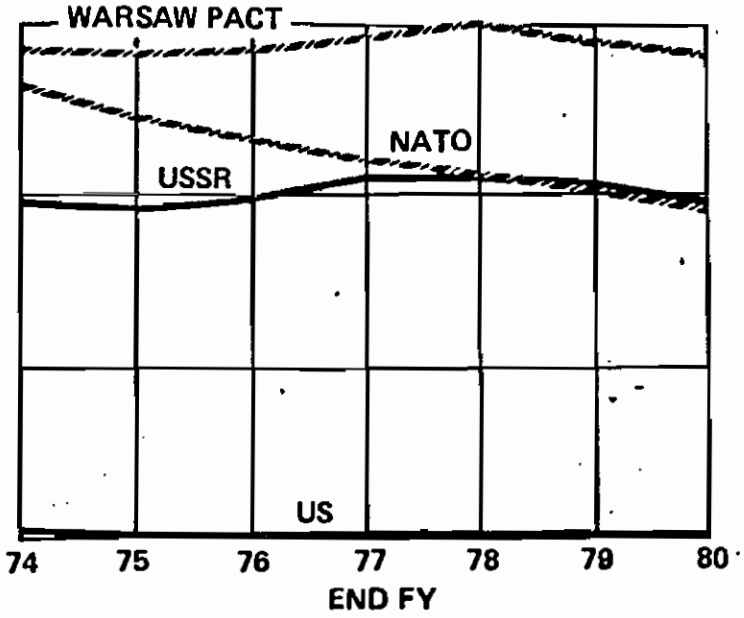
Force Level Comparison

PATROL COMBATANTS*



* Includes ships greater than 100T, less than 1,000T active force only for US, USSR, and Warsaw Pact NATO forces include reserve forces

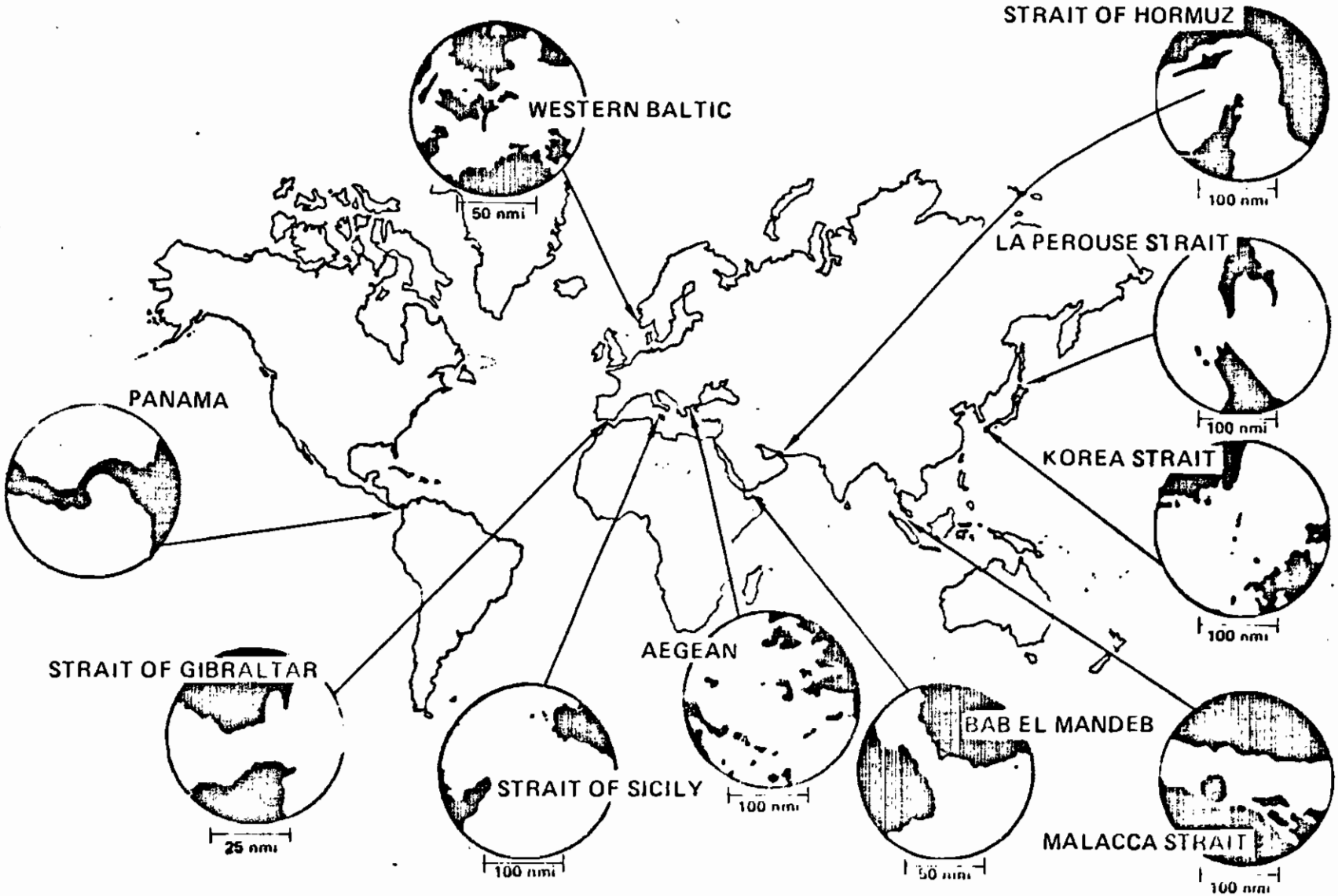
MINE WARFARE SHIPS AND CRAFT*



* Active force only for US, USSR, and Warsaw Pact NATO forces include reserve forces

FY 81 POSTURE STATEMENT

Choke Points



CHOKE POINT CONTROL IS A WORLD WIDE PROBLEM

Threat

- Major forces exiting choke areas
- Missile-armed fast patrol craft
  - 200+ in Soviet oriented countries
  - 36 in Latin America including 27 in Cuba
- Waterborne insurgency forces in areas of turbulence

Required Ship Characteristics

- Offensive capability
- Efficient use of manpower
- Global reach
- Technological supremacy

Adm. T. B. Hayward

PHM

A Cost-Effective Multipurpose Ship

Significant Operations
PHM 1 USS Pegasus

October 1975	Record Seattle-San Diego transit – 31 hours, 21 minutes underway, SOA 37 knots
June 1976	Completed OPEVAL in planned 31 days
August 1977	Longest single flight – 17 hours, 5 minutes
May 1978	Pearl Harbor to San Diego, SOA 16 knots Refueling in 20+ ft seas
June 1979	San Diego to Norfolk, SOA 14.5 knots Record Panama Canal transit – 2 hours, 41 minutes
1975-1980	99,000 nautical miles 4,834 underway hours 1,571 foilborne hours Average SOA 21 knots No sea state operational limitations have been found so far

PHM-1 Exercise Findings

- Poor radar target
  - PHM usually takes action prior to being detected
- Hard to classify
  - PHM being confused with fishing boats and helicopters
- Successful over-the-horizon targeting attack
- Maneuvering PHM hard to engage by aircraft using aimed weapons
- PHM provides extremely stable platform for gun resulting in destruction of high-speed targets

PHM PRODUCTION PROGRAM IMPROVEMENTS

- PERFORMANCE
  - INCREASED FUEL LOAD AND DISPLACEMENT
  - REDUCED HYDRODYNAMIC DRAG
  - BETTER SEAWAY CAPABILITY
  - HIGHER SPEED
- RELIABILITY & MAINTAINABILITY
  - STRUT & FOIL LIFE
  - FOILBORNE PUMP
  - GEARBOX
  - COMPONENTS
- OPERATIONS
  - CIC ARRANGEMENT

COST-EFFECTIVE SURFACE COMBATANT

- HIGH FIRE RATE
  - HARPOON
  - 76MM GUN

→ MISSION KILL:
  - LARGE COMBATANTS
  - MISSILE GUNBOATS
  - AIR TARGETS

- HIGH SPEED & MANEUVER RATES
- SMALL RADAR CROSS SECTION
- STABLE PLATFORM IN HIGH SEAS

→ PHM UNIQUE ADVANTAGES:
  - CONTROL ENGAGEMENT GEOMETRY
  - GUNFIRE DUEL
  - INVULNERABILITY TO TORPEDOES
  - SURVIVABILITY TO ASM/SSM & STRAFING AIRCRAFT

- SMALL SIZE
- LOW COST
- SMALL CREW
- SMALL MLSG

→ LESS PERSONNEL AND MATERIAL AT RISK

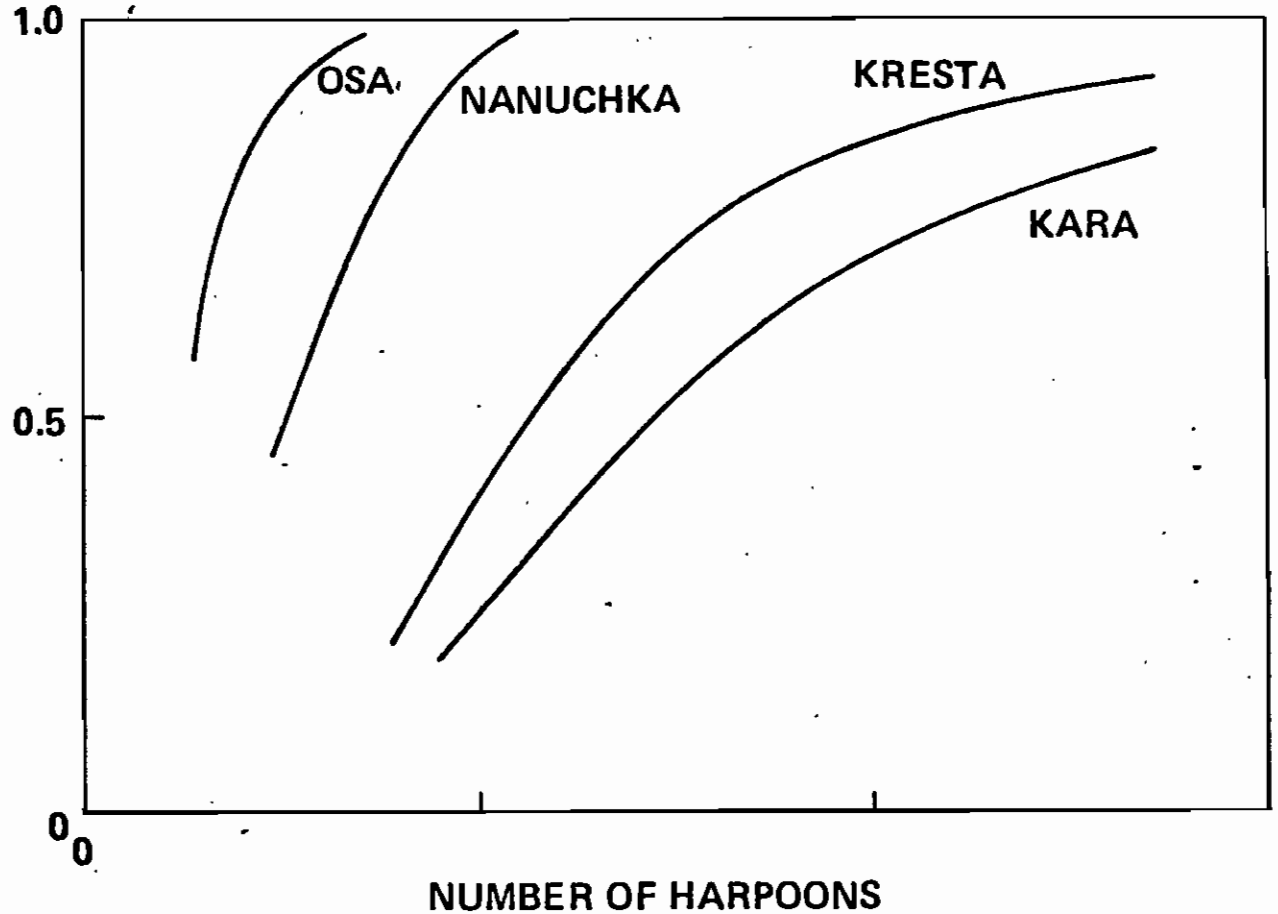
→ SURFACE WARFARE MISSION CAPABILITIES

→ POTENTIAL FOR ASW AND MINE COUNTERMEASURES

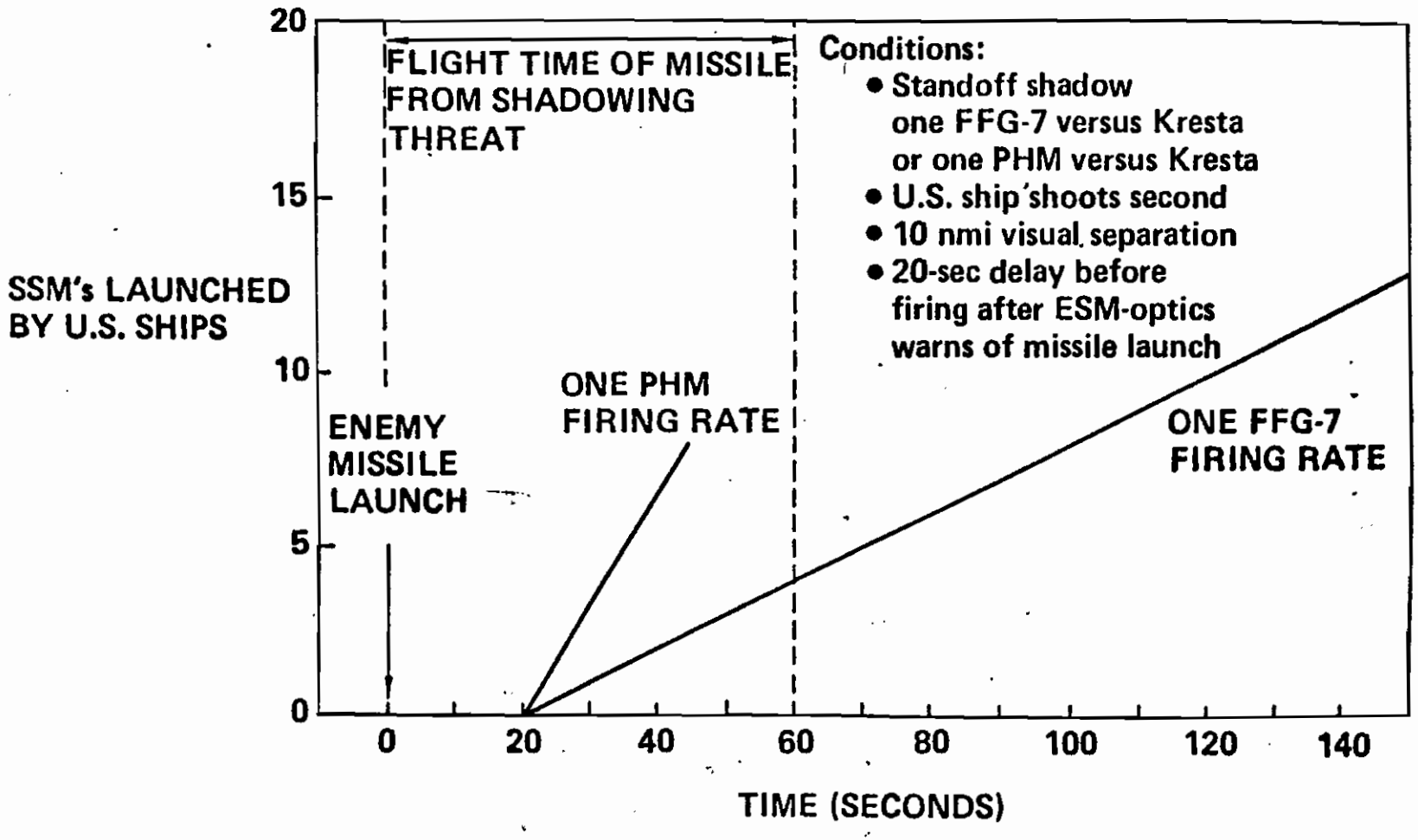
FIREPOWER COMPARISON

	DD 963	FFG 7	PHM 3
• SURFACE-TO-SURFACE MISSILES	8 HARPOONS	20 HARPOONS	8 HARPOONS
• FIRING RATE	1 PER 2-1/2 SEC	1 PER 13 SEC	1 PER 2-1/2 SEC
• ANTI-AIR WEAPONRY	1 5-IN GUN	1 76MM GUN 20 SM-1 MISSILES	1 76MM GUN
• FIRING RATE	20 ROUNDS/MIN	80 ROUNDS/MIN	80 ROUNDS/MIN

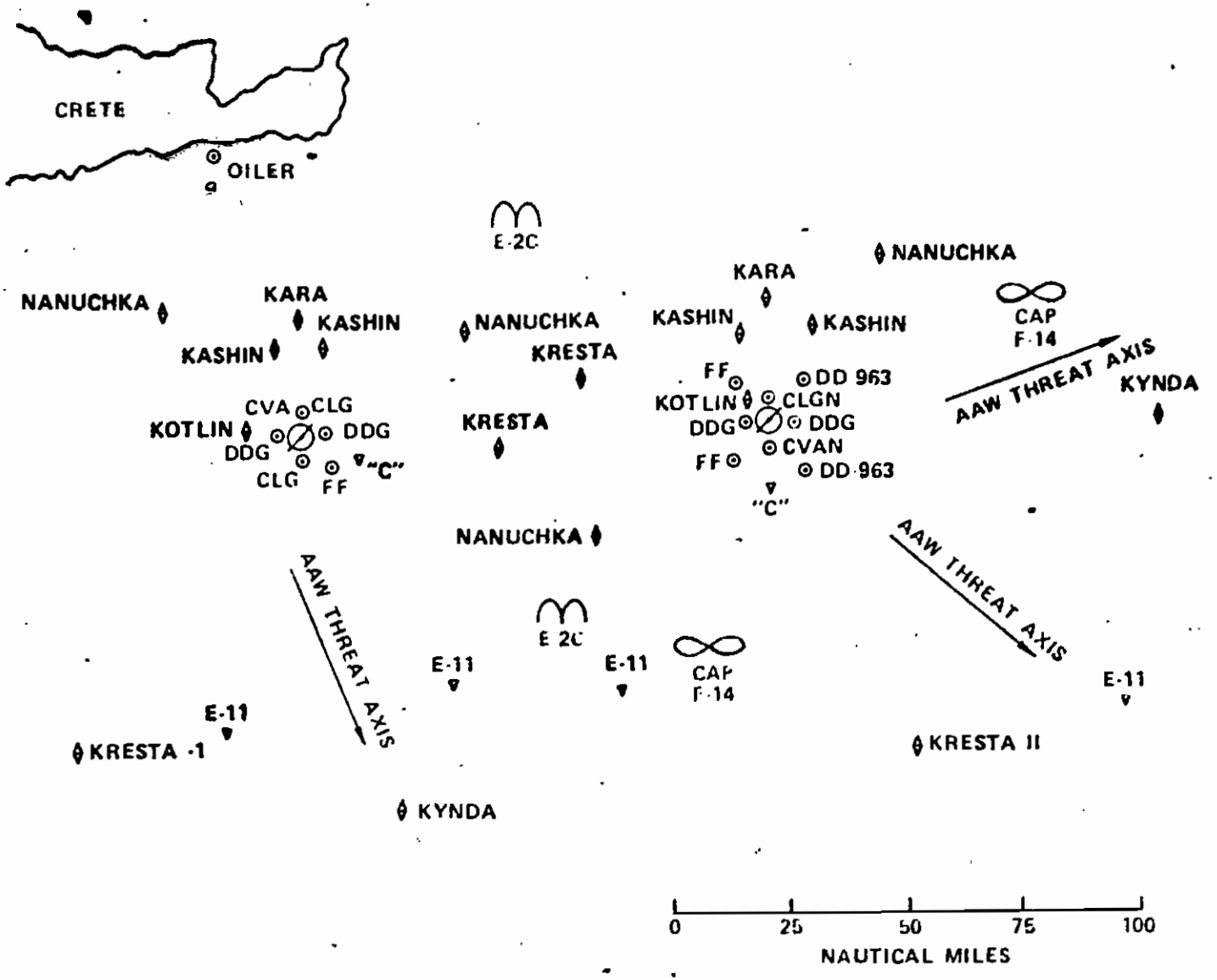
PHM Offense Capability
Harpoon Kill Capability



PHM Offense Capability
Harpoon Exchange on Shadowing Ship



Force Deployments - Task Group 6.2
Dispersed Soviet Threat



Force Deployments - Task Group 6.2
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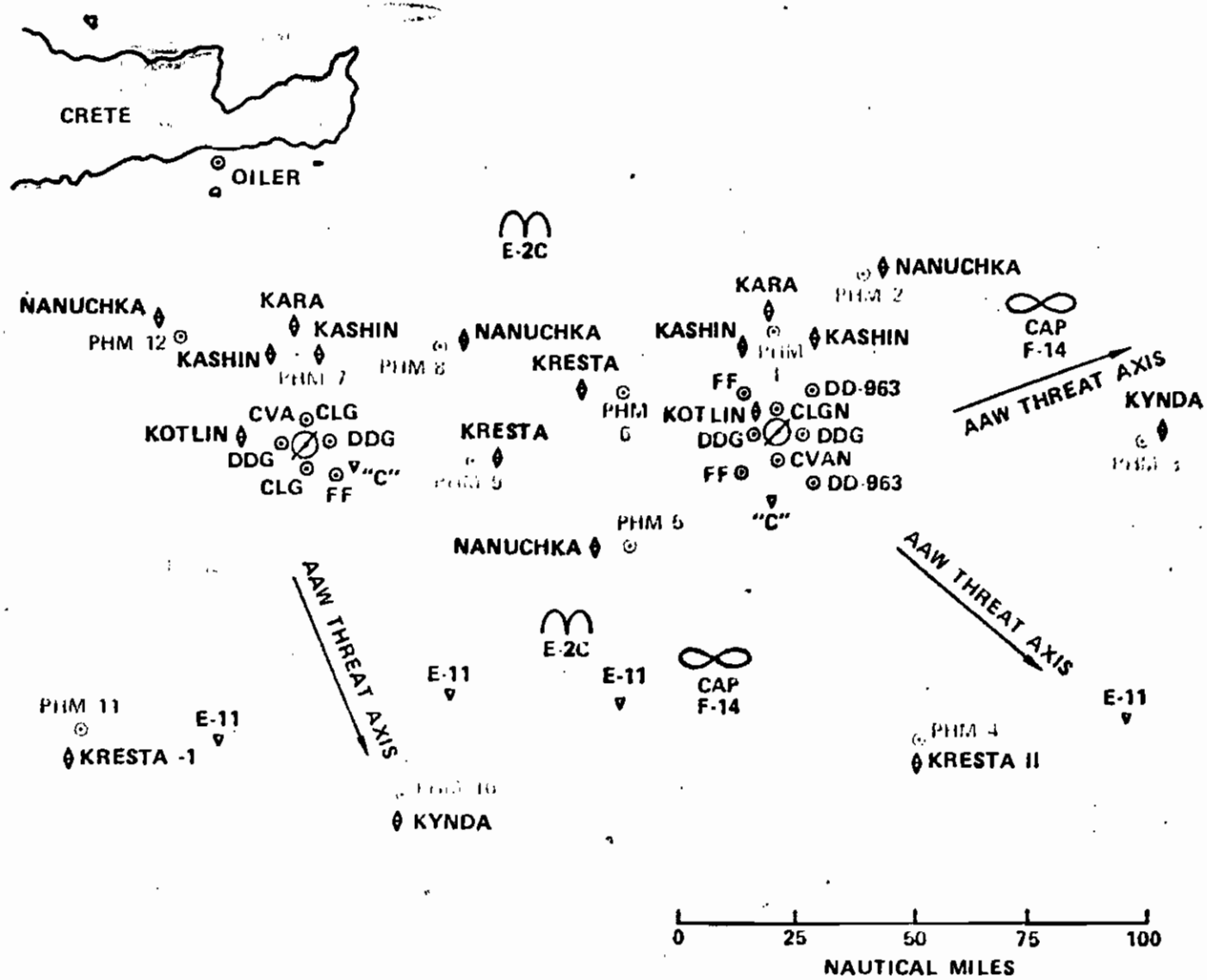
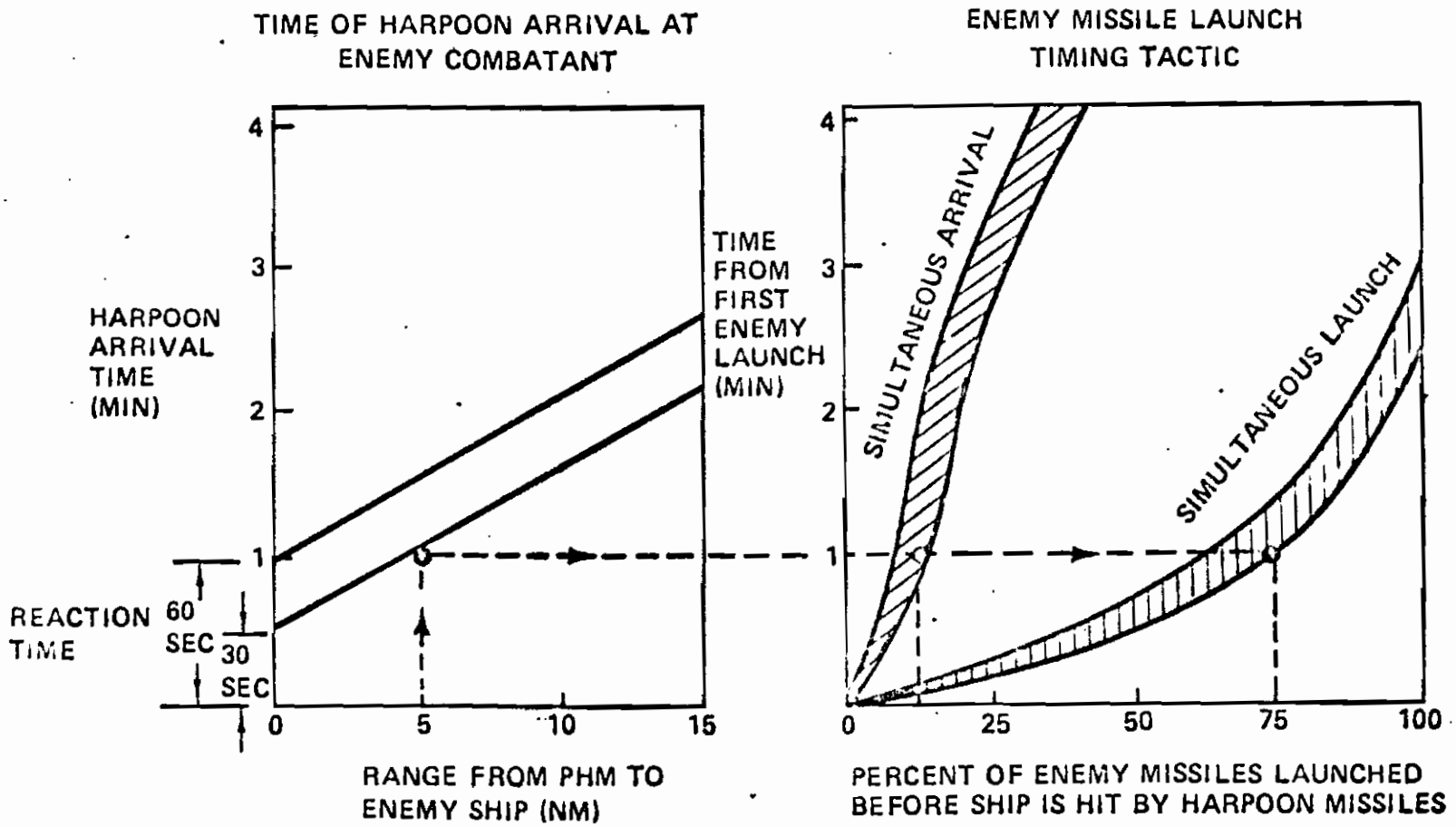
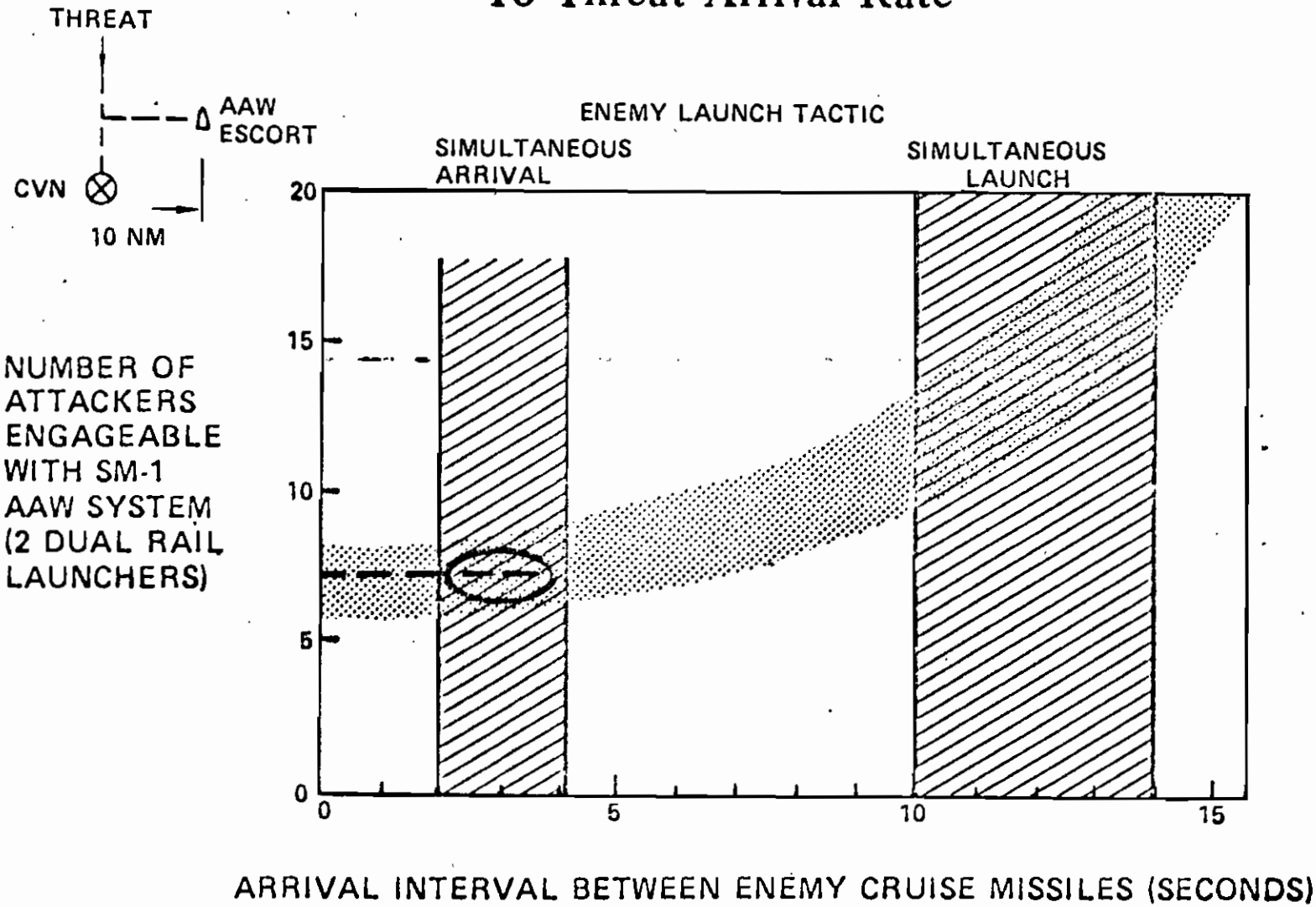


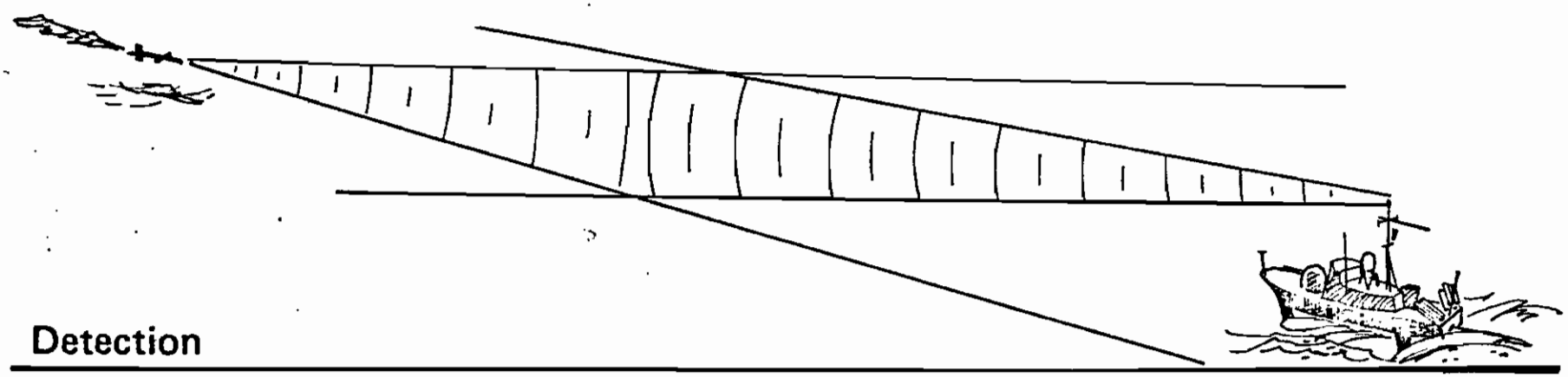
PHM Effectiveness in Denying Cruise Missile Launches



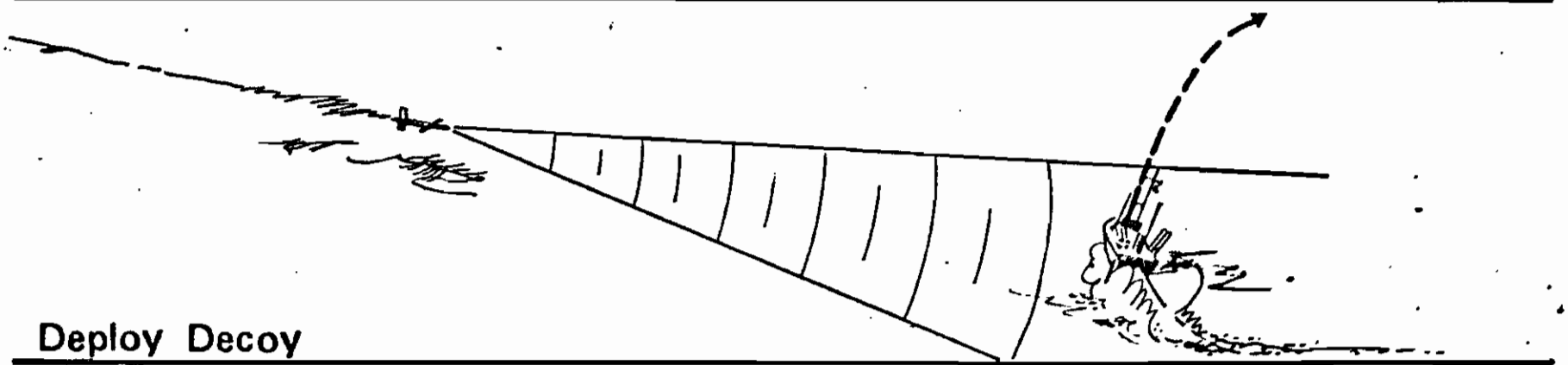
Sensitivity of AAW Ship Firepower Effectiveness To Threat Arrival Rate



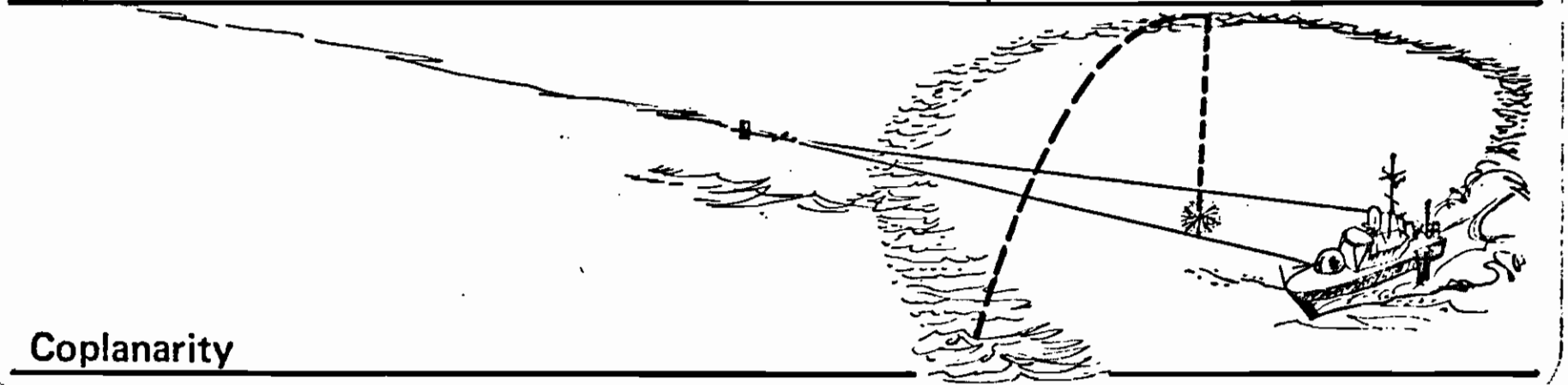
Countermeasure Sequence



Detection



Deploy Decoy

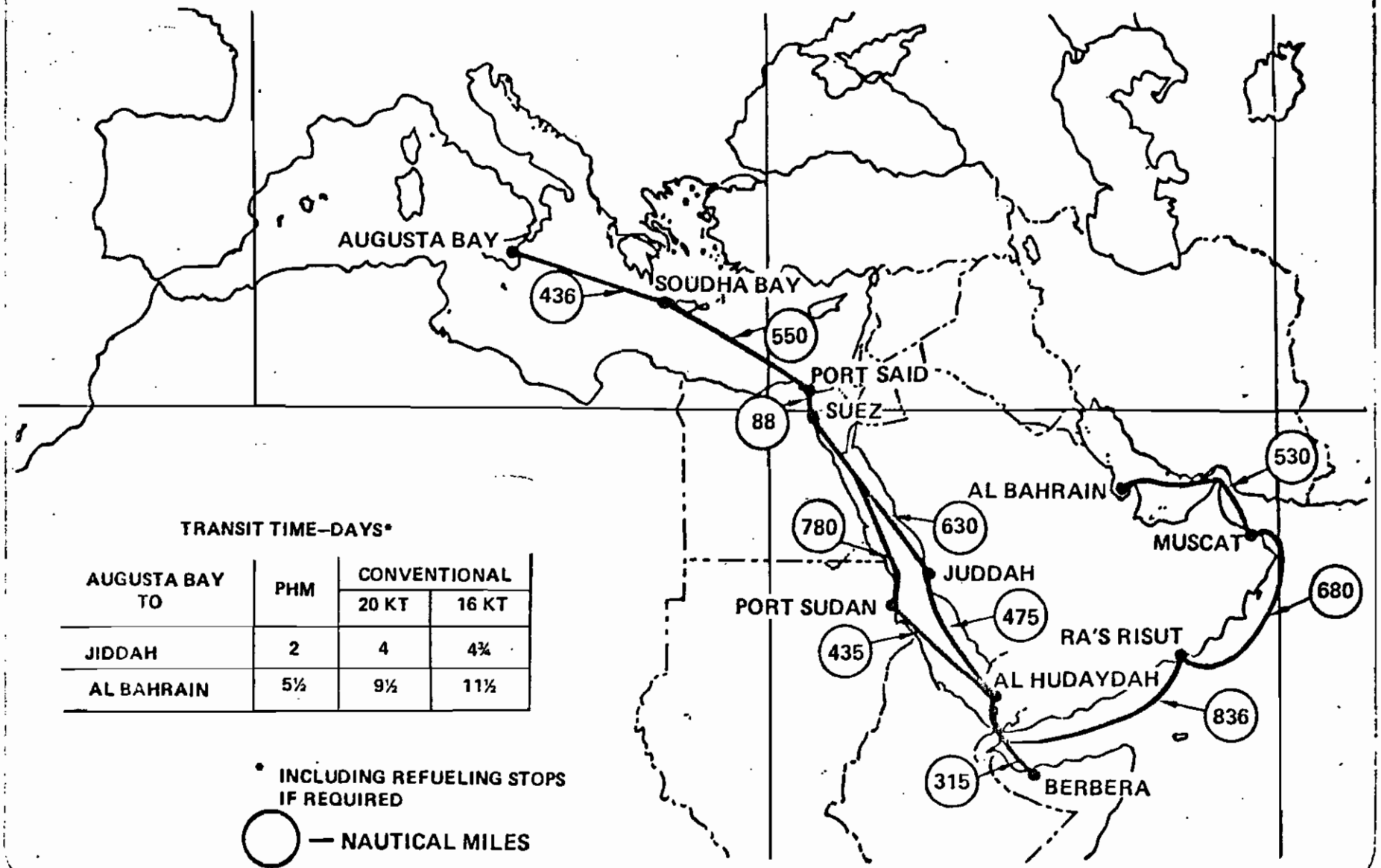


Coplanarity

PHM in Mid-East Crisis Response

- Rapid movement from Mediterranean
- Augmentation of Middle East task force
- Cooperation with friendly navies
- Surveillance, patrol, show of force in—
  - Red Sea
  - Gulf of Aden
  - Gulf of Oman
  - Arabian Gulf

Transit Distance and Time



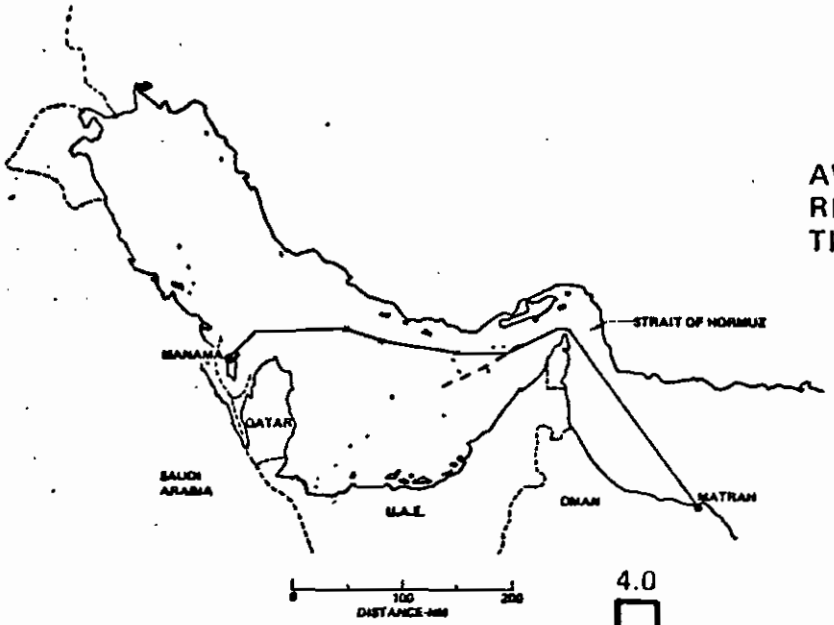
TRANSIT TIME–DAYS*

AUGUSTA BAY TO	PHM	CONVENTIONAL	
		20 KT	16 KT
JIDDAH	2	4	4¾
AL BAHRAIN	5½	9½	11½

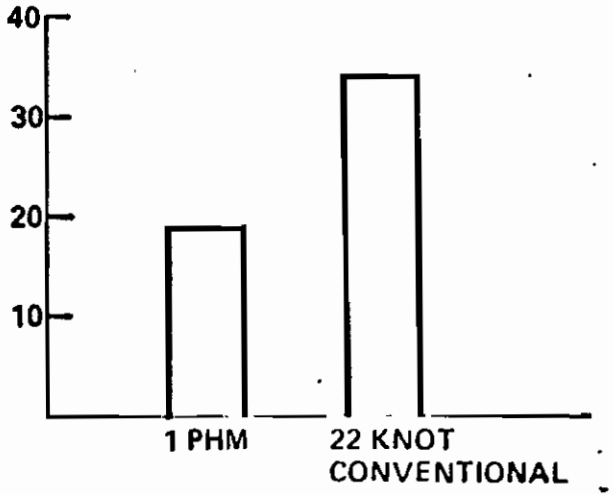
* INCLUDING REFUELING STOPS IF REQUIRED

— NAUTICAL MILES

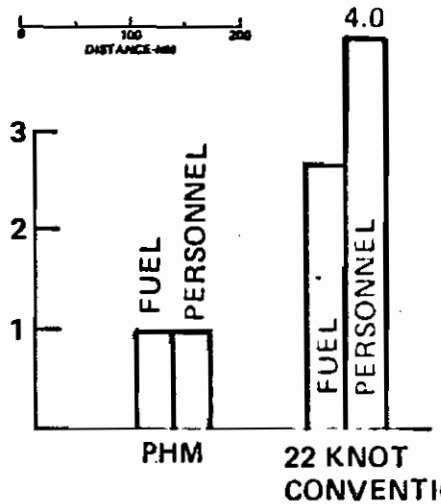
Oil Tanker Traffic Protection



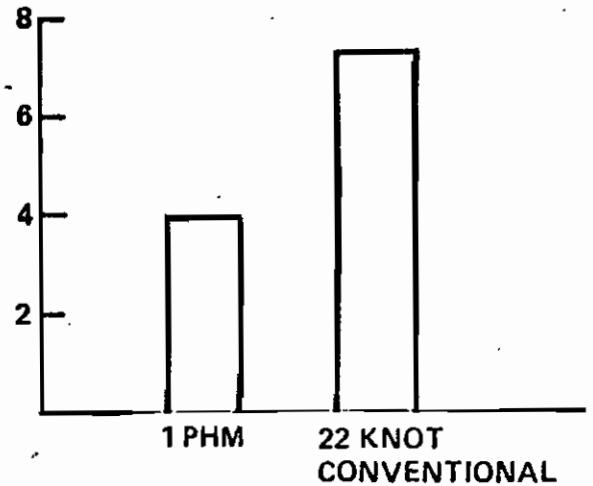
AVERAGE REVISIT TIME-HOURS

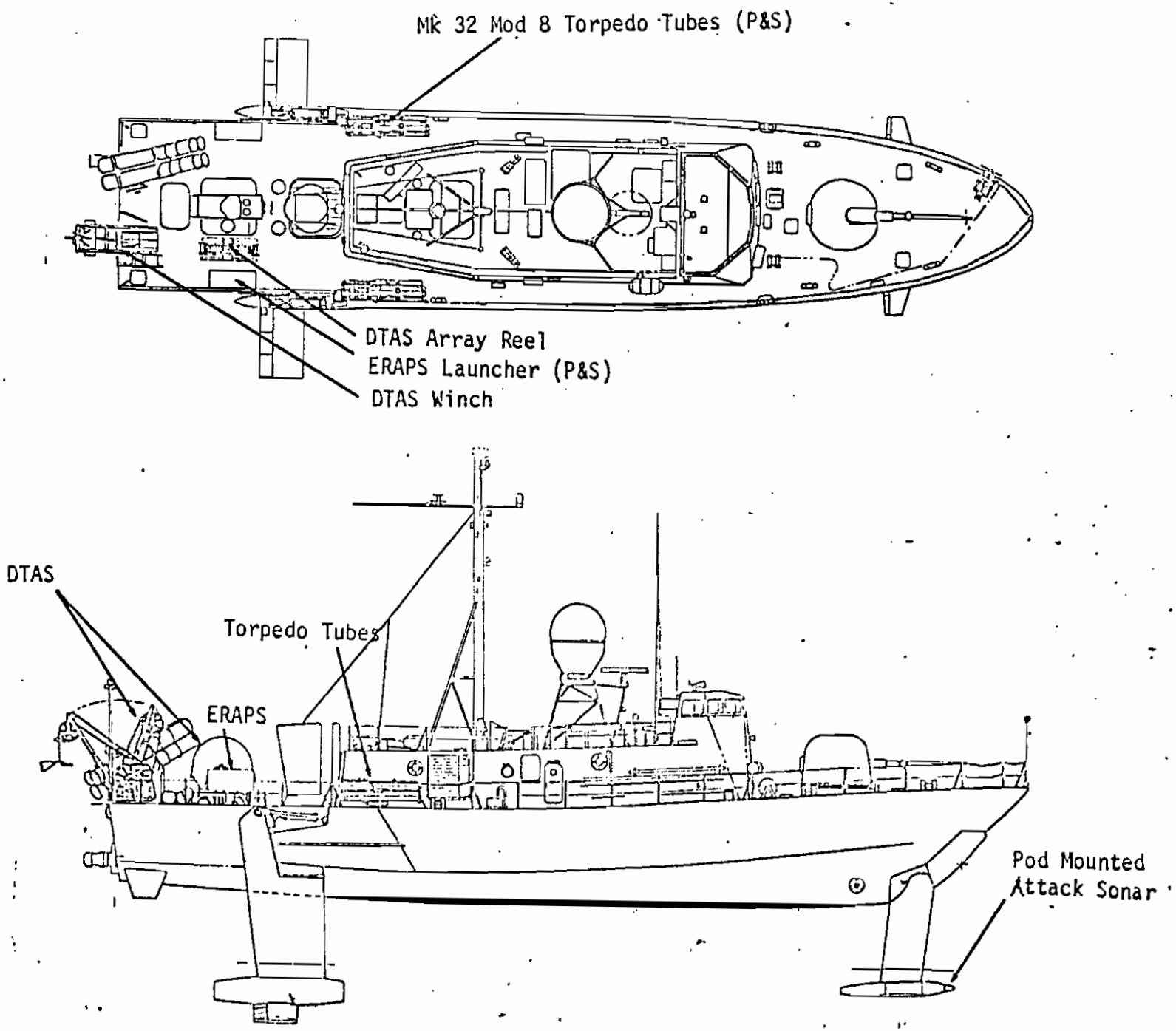


RELATIVE FUEL AND PERSONNEL REQUIRED

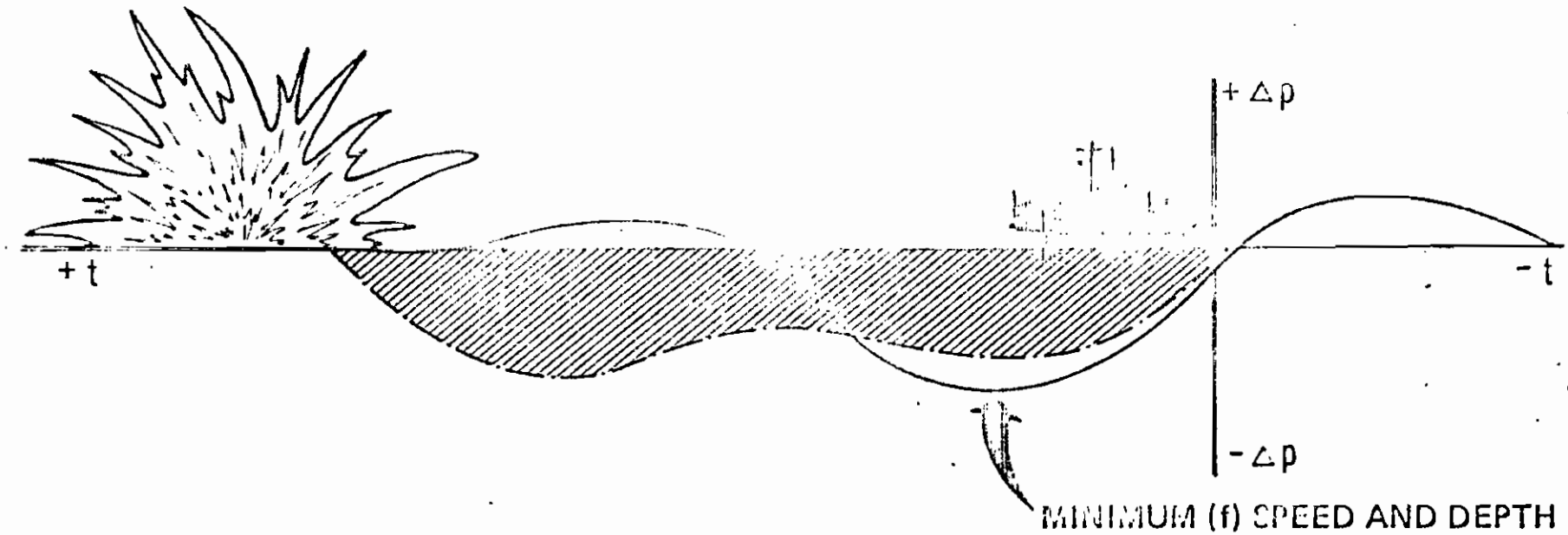


MEAN RESPONSE TIME-HOURS




Mk 32 Mod 8 Torpedo Tubes (P&S)
DTAS Array Reel
ERAPS Launcher (P&S)
DTAS Winch
DTAS
Torpedo Tubes
ERAPS
Pod Mounted
Attack Sonar

PAM Minesweeper



PHM Mission Capability

- Surface strike
- Barrier and chokepoint control
- Area sanitization
- Close surveillance and trail (tattletale)
- Force multiplier
- Escort
- Patrol of critical tanker and transport routes
- ASW & MCM potential

MIDEAST TASK FORCE

SHIP	NO.	REPLACEMENT VALUE $	MANPOWER
AGF-3	1	–	–
AGFF-1	1	240M	160
DDG-5	1	350M	350
FFG-6	1	240M	160
FF-1081	1	240M	160
TOTAL	4 + AGF-3	1,070M	830
PHM	6 + AGF-3	400*	238*

* INCLUDES MLSG ON AGF-3

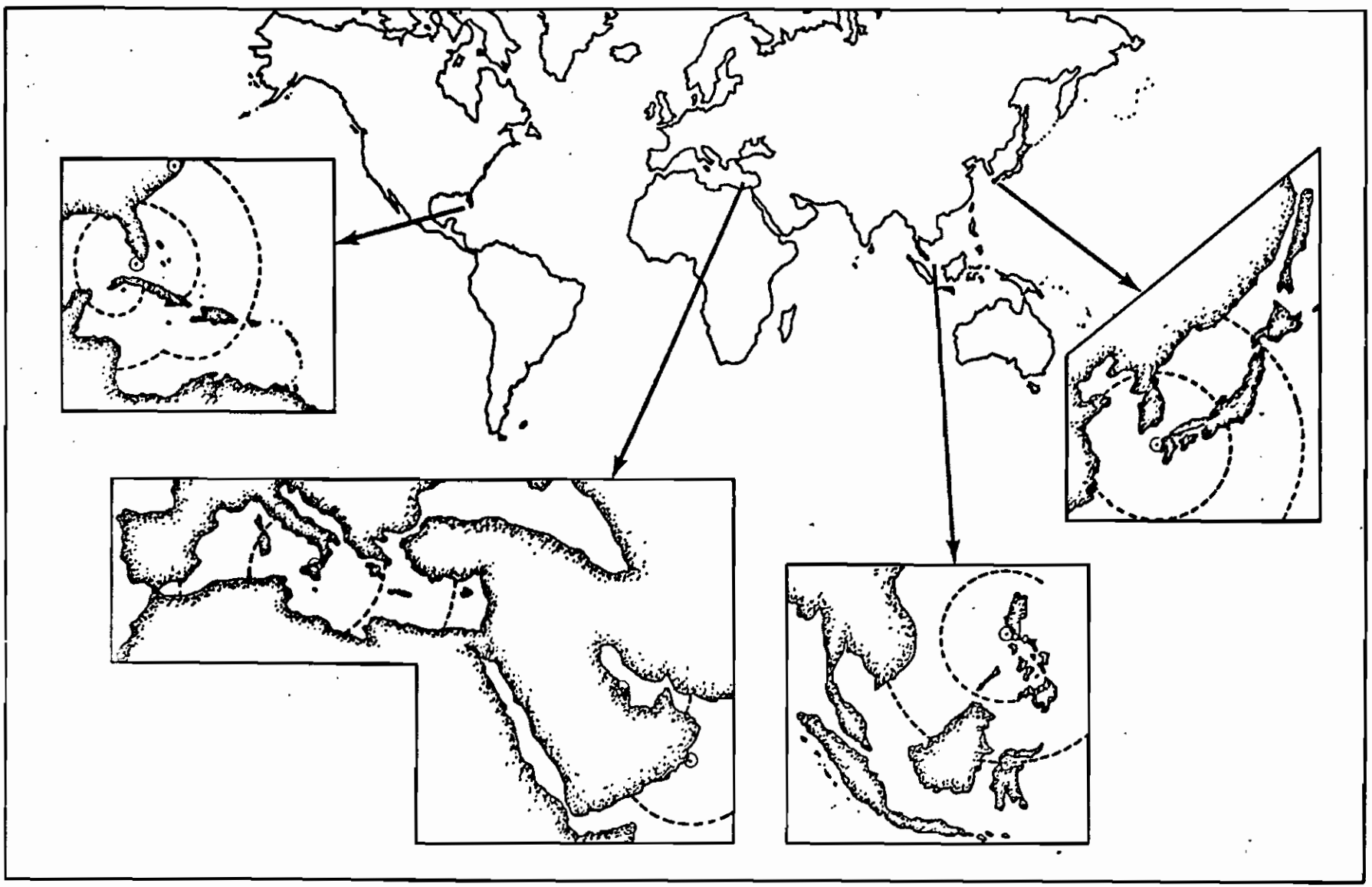
Combat Risk to Men and Material

Equivalent Acquisition Cost

	DD 963	FFG7	PHM 3	PHM (ASW)
TASK GROUP SHIPS	1	2	6	6
CREW	292	328	126	144
FIREPOWER				
HARPOONS	8	40	48	24
GUNS	1 5-in 20 ROUNDS/MIN	2 76-mm 160 ROUNDS/MIN	6 76-mm 480 ROUNDS/MIN	6 76-mm 480 ROUNDS/MIN
TORPEDOES	6 TUBES ASROC LAMPS	12 TUBES LAMPS		36 TUBES

Global Reach

PHM Forward Deployment Areas



Mobile Logistics Support

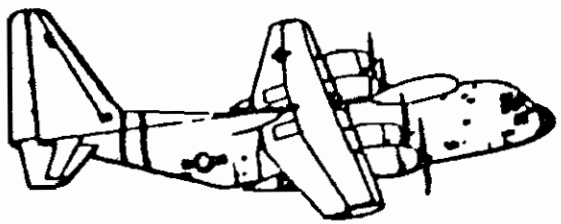
Squadron Level

MOBILE LOGISTICS SUPPORT GROUP

6 OFFICERS

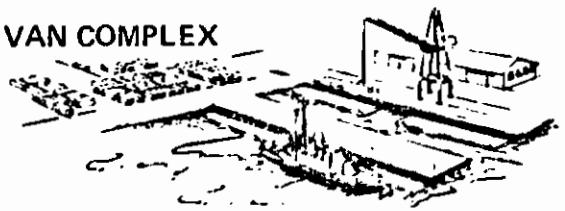
106 ENLISTED

TRANSIT



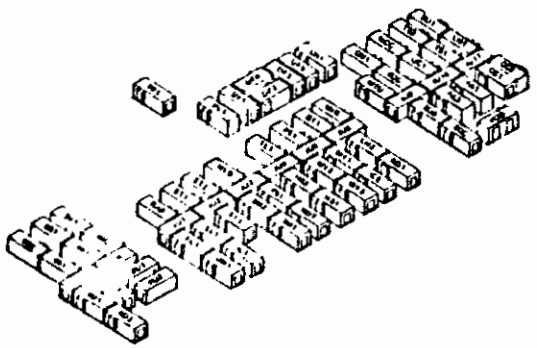
BASING

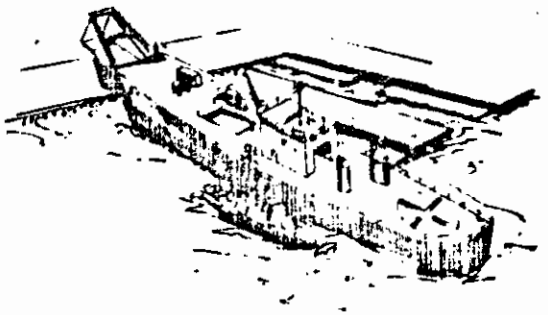
VAN COMPLEX



ASHORE

FACILITIES





SUPPORT SHIP

Forward Deployment Advantages

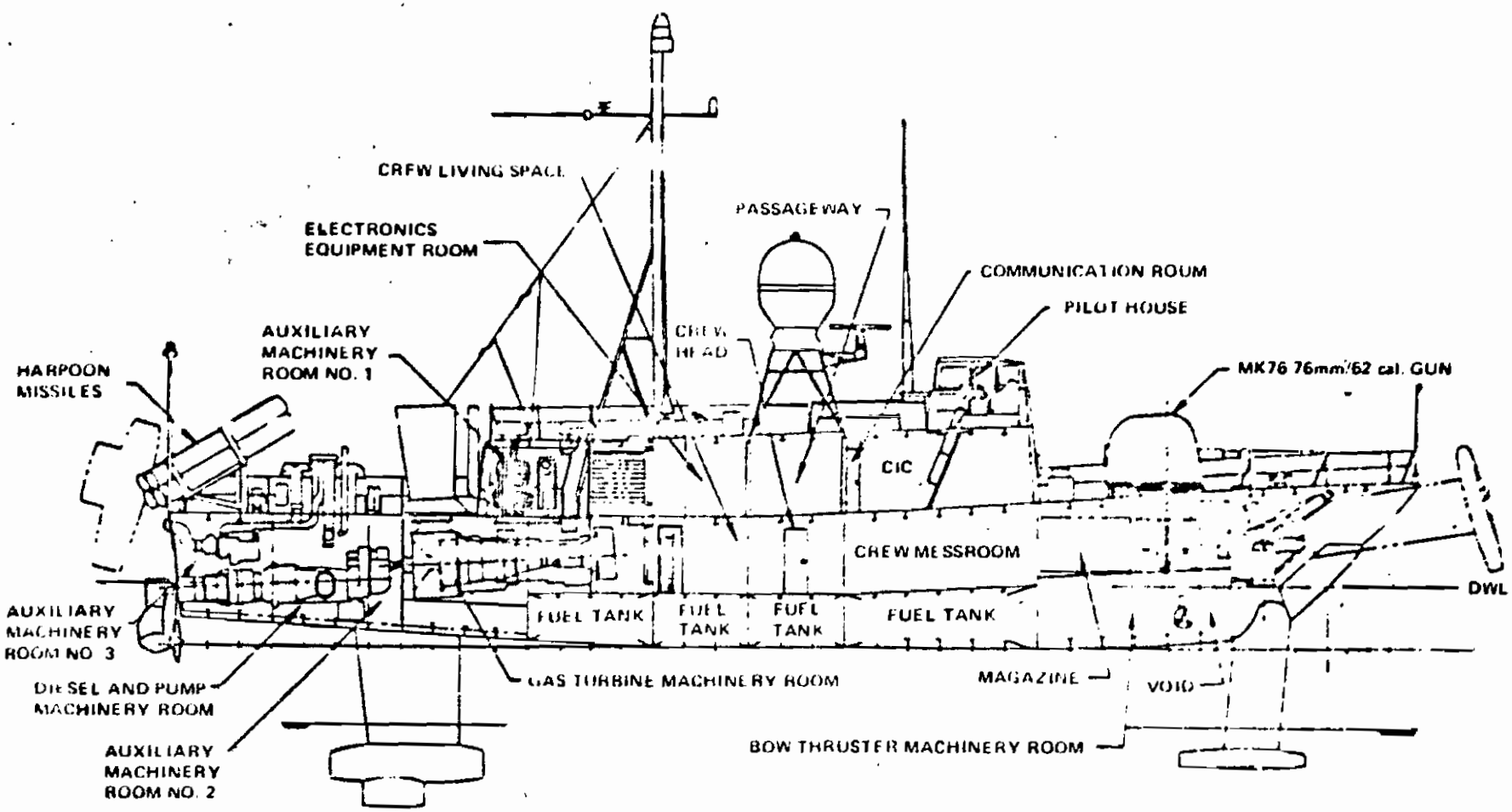
- High operational availability
- 2- to 4-yr deployment
- Rotate crews by air
- Use of PHM's versus other ships

  ∴Cost-effective

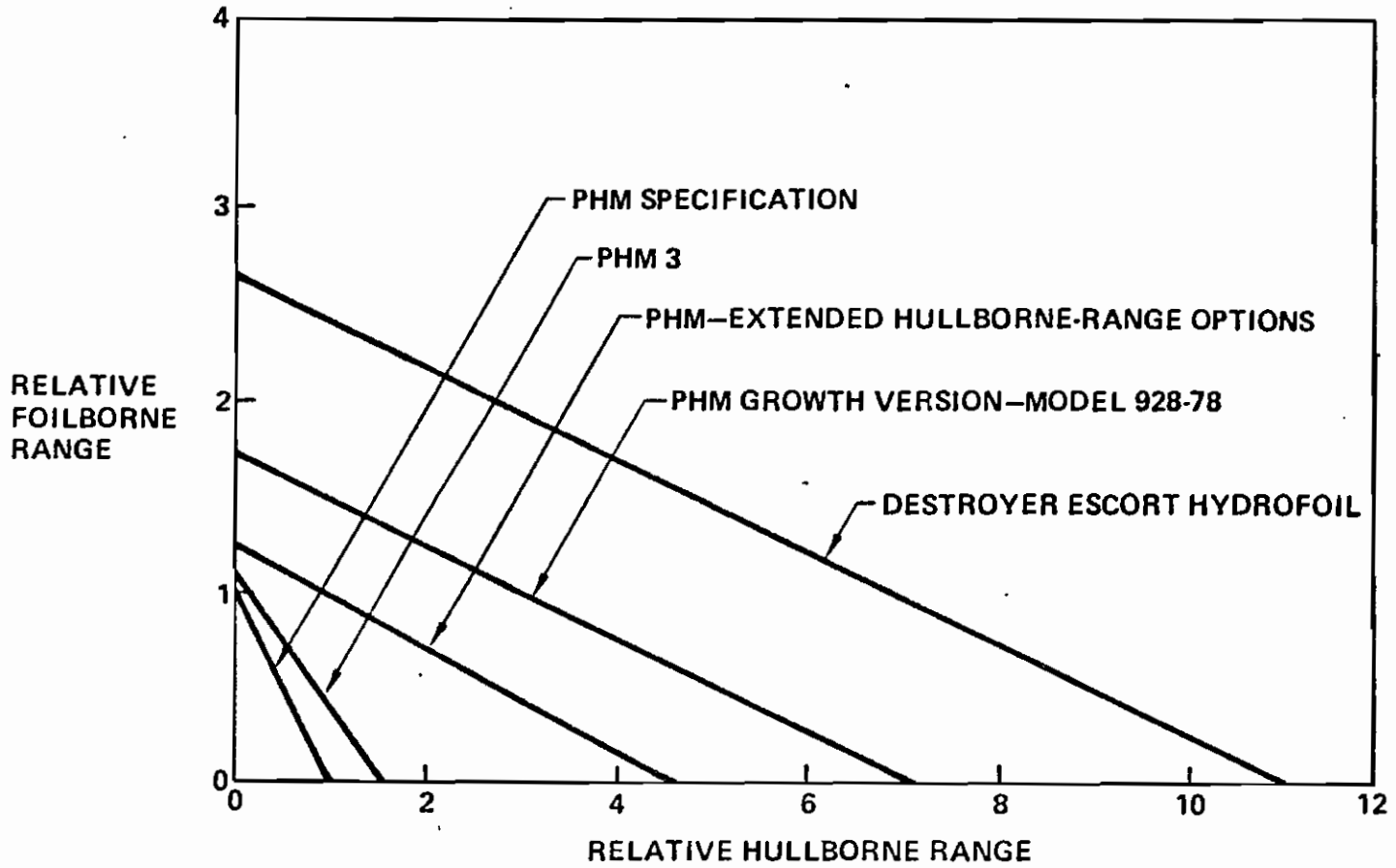
Technological Supremacy

- Hydrofoil family of ships
  - Extended range
  - Growth PHM
  - Destroyer escort hydrofoil
- Multi-mission

PHM-EHR and PHM 3
Inboard Profile Comparison



Growth Potential



HYDROFOILS HAVE BLUE WATER CAPABILITY

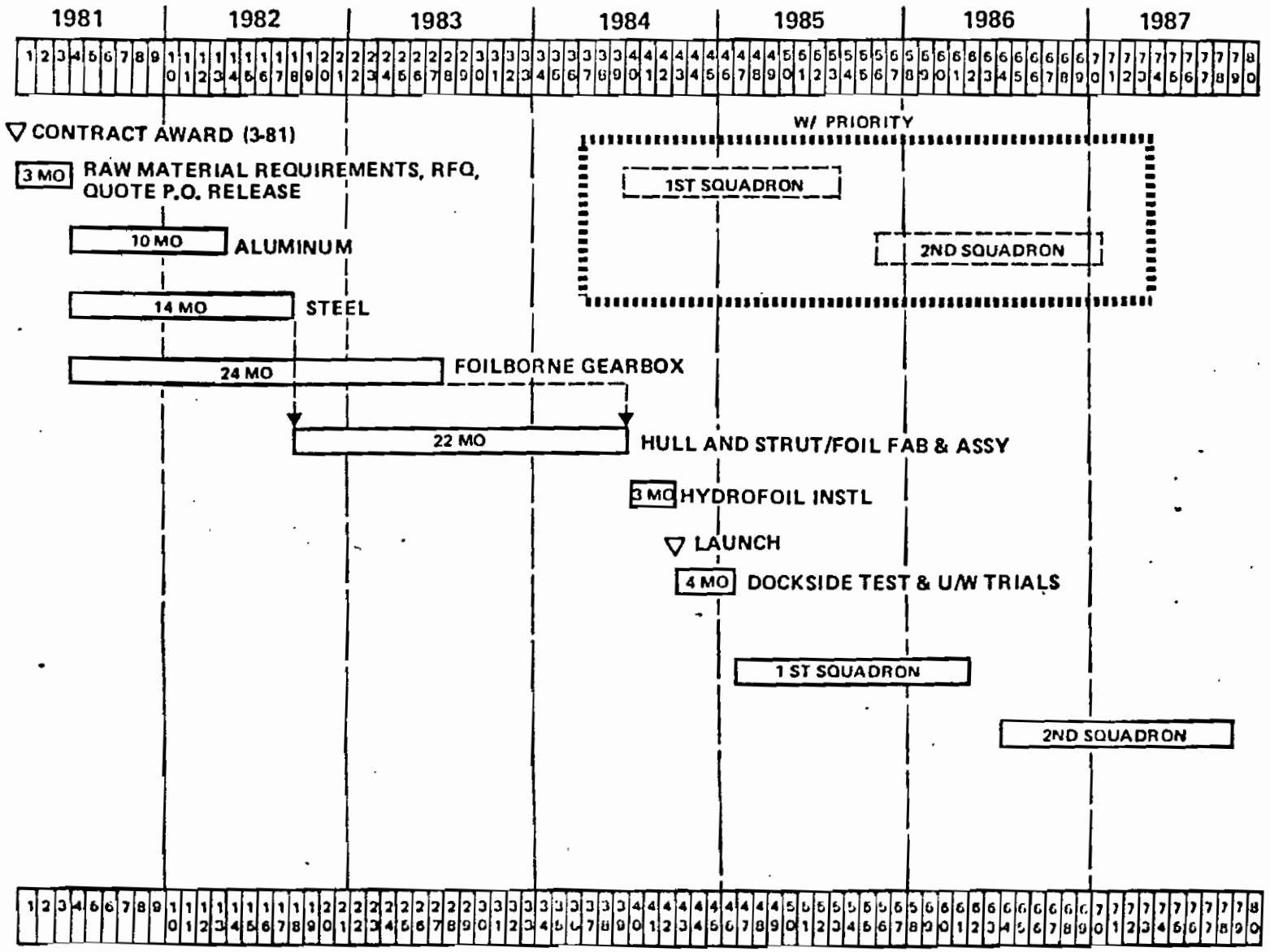
Summary

- PHM
  - Cost-effective Naval presence in areas of political and military turbulence
  - Cost-effective Naval force growth
  - Within Admiral Hayward's criteria
  - Successful inservice experience - "Pegasus"
  - Versatile mission capability
  - Low manpower requirements
  - Low acquisition costs
  - Existing tools and available facilities
  - Nonrecurring costs paid
  - Technological supremacy of the PHM family

Summary

- Add 2-3 squadrons of PHM
- Incorporate extended range option
- Fund engineering for growth version
- Fund R&D for hydrofoil destroyer escort

PHM FOLLOW-ON
MULTIPLE SQUADRON PROCUREMENT
(LONG LEAD BASED ON JETFOIL BLOCK V LEAD TIMES)



PHM FOLLOW-ON PRICES
(March 1980 Dollars in Millions)

	SIX SHIPS * UNITS 7-12		SIX SHIPS * UNITS 13-18	
CURRENT CONFIGURATION				
NON-RECURRING	$ 22.0		$ 3.0	
RECURRING	254.0		219.0	
SUB-TOTAL (PER UNIT)	$276.0	($46.0)	$222.0	($37.0)
DELTA FOR EXTENDED HULLBORNE RANGE				
NON-RECURRING	$ 6.9			
RECURRING	$ 3.8		$ 3.8	—
GRAND TOTAL (PER UNIT)	$286.7	($47.8)	$225.8	($37.6)

* NOT INCLUDING GFE