

NAVCOM # 24
19 Oct. 1972

SEA CONTROL SHIP STUDY

INITIAL TASKS

HCBrown

Method for accomplishment of initial tasks, (10 man-days by Nov. 6)

1. Review material furnished for stated or implied questions.
 2. Sort according to Level of consideration.
 3. Postulate input-output demands and algorithms (includes framing subordinate questions.
 4. Recommend those for study; indicate assumptions for others.
 5. Develop lists of inputs required.
 6. Identify computational models.
 7. Estimate effort involved.
-
1. REVIEW OF MATERIAL
 - (1) Exactly what is a "low air/surface, high submarine threat environment?"
 - (2) What are performance variables of type escorts which may be provided?
 - (3) What are performance variables of LAMPS?

- (4) What are the command/control sub-functions?
- (5) What does "LAMPS heavy maintenance " entail?
- (6) What are the circumstances (scenarios) for escort of merchant ships, other naval ships, and auxiliaries?
- (7) What can be built for less than \$90 M?
- (8) What is meant by "80% effectiveness"?

Listed characteristics

Configuration.....Performance

Displacement

Length, Beam, DraftDepth minimum

Engines, ScrewMax. speed, sustained speed
Range (maneuver capability)

Complement, (Crew Support)

Subsystems

Launch & Recovery GearAircraft Launch & Recovery Capability.

Flight Deck

Aircraft Storage.....Aircraft Inventory

On-Board ElectronicsCommand-Intelligence-Signal Capability.

ArmamentFire Capability.

Pertinent Questions

- (9) How do the competing candidates rate in capability to meet above specifications?
- (10) What are the relative values of the listed performance characteristics in various scenarios?
- (11) What are the essential functions of SCS?

- (12) Which of these essential functions, and to what degree can present systems perform?
- (13) What are the minimum capabilities of weapons and aircraft to carry out the essential functions?
- (14) What secondary or desirable capabilities can be performed by the SCS system?
- (15) Can additional capabilities be justified?
- (16) How can firm production cost ceilings be applied and justified?
- (17) How can manpower be minimized?
- (18) Can existing systems be modified for SCS?
- (19) What is the relationship of SCS to the existing fleet?
- (20) What are the relationships between LAMPS and SCS?
- (21) What is the capability of SCS to meet evolution at modest cost?
- (22) To what extent can commonality be implemented in aircraft for Marine HXM, CV ASW aircraft and SCS V/STOL?
- (23) Can non-propeller aircraft execute missions (maintenance implications)?
- (24) Is a 24-hour airborne rate of 2/11 ASW, and 1/3 DLI/DLA alert feasible?
- (25) What should sensor and ammo capability of AEW aircraft be? (400 n.mi. passive ECM postulated)
- (26) Same as (25) for ASW.
- (27) What should sensor aircraft performance variables be?

- (28) What ASW airborne sensor systems(s) will be used?
- (29) Note in passive EM. and acoustic forces
- What is the feasibility and utility of a silent SCS-escorted convoy?
- (30) What is the feasibility and utility of Acoustic Deception Devices?
- (31) What is the feasibility and utility of LAMPS improvements: self-contained acoustic processor, ESM, radar, right classification, air-to-surface weapon, Harpoon targeting, ADDS and a haul-down, securing and traversing device on DD?
- (32) What is the effect of an improvement in the quietness of submarines?
- (33) What is the feasibility and utility of:
- a. Covert command? ("spread spectrum)
 - b. Accurate relative navigation system?
 - c. Improved passive sonar?
 - d. Measurement of own acoustic signature?
 - e. Improved acoustic processing?
 - f. Lightweight ADD's?
 - g. Good periscope detection radar?
 - h. Better sonobuoy position location?
- (34) What should be doctrine and tactics for SCS and escort?
- (35) Will V/STOL aircraft capability enable implementation of such doctrine and tactics?

- (36) Will sensor capability enable implementation of such doctrine and tactics?
- (37) Will C³ capability enable implementation of such doctrine and tactics?
- (38) Will hydrofoil make better escort than DE-1052?
- (39) What advanced ship for next generation SCS?
- (40) How limited for low-cost weapons system modernization and replacement over the ship life?
- (41) What is the "life-cycle" cost?
- (42) How integrate SCS, ASW helos, AEW helo, LAMPS helo, DE/PF, VF/VA, C&C, Comm. in new tactics?
- (43) What is effect of containerization of aircraft support elements?
- (44) What can CIWS provided by SCS?
- (45) How can SCS C³ achieve following:
 - a. Increased attack warning time?
 - b. Interface accompanying "forces" (forces?)
 - c. Handle Link 11 and Link 4 to accompanying HELO?
 - d. Decouple sensors and weapons from ship.
- (46) What are backup capabilities of carrier task forces in time frame?
- (47) SCS task force mission protection of: (1) inbound merchant ships, (2) underway replenishment groups, (3) amphibious assault forces, (4) task groups w/o aircraft carriers. Is this current concept?

- (48) Operates in low-threat areas. How is "low-threat" defined?
- (49) Major Navy missions, Strategic Deterrence, Sea Control, Projection of Forces, Presence. How defined and differentiated?
- (50) what is meant by "provide a force to sanitize any desired area?" Is this an added mission for SCS Task Group? Later "seek out and destroy enemy in a given area?"
- (51) What are the capabilities of the Russian anti-ship missiles?
- (52) What are the anti-ship-missile-defense capabilities of the escorts?
- (53) What will be self-defense capabilities of escorted ships?
- (54) What requirements are imposed by Harrier ship board operations and tactics ("Guam trial experience).
- (55) What are effects of sea state and weather on various air operations?
- (56) What are capabilities of new MAD ASQ-81?
- (57) What is sea control and why do we need it?
- (58) What is the most effective general means for establishing sea control? (shipborne aviation alleged)
- (59) How does airlift capability alter the sea control requirement?
- (60) What is the role of land-based aviation in sea control?
- (61) What is the status of overseas basing for America for us? (in the scenario)
- (62) How is the problem affected by nuclear threat?
- (63) What is the differences in performance characteristics between land-based and sea-based aircraft?

- (64) How does overseas stockage affect the sea-control requirement? (Relation to length of war)
- (65) Is provision of tactical air support to allies a part of continuing Navy mission?
- (66) Is the CVS a good candidate for immediate SCS mission?
- (67) How does SCS concept get maximum use from existing ship, plane, etc., inventory? (While modernization is proceeding).
- (68) What is proper balance between specialized ships and general-purpose ships for the Navy?
- (69) How do we combat Soviet "surge" (subs and surface ships) through Greenland-Iceland- UK gap?
- (70) Why are our ships out-gunned by the Soviet ships? Is it a difference of doctrine, and if so, who is more right?
- (71) What can the large carrier task force add to the capability of other ASW task forces?
- (72) Is it overall feasible and desirable to combine CVA/ CVS roles in the same hull?
- (73) Should the U.S. Navy have SSM ships?
- (74) What is the degree of submarine threat by ocean area worldwide? (model as combat potential)
- (75) How does air potential (land-based or sea-based) affect the relative combat potential of surface task forces?
- (76) What is the actual underwater launch capability of the Soviets?
- (77) What are the actual capabilities of Soviet SSM's, however launched, and in what mode of operation?

- (78) How is the "high threat" area at the end of communication route to be penetrated?
- (79) How does obsolescence affect K_c ? Through reliability?
- (80) What is the worth of the concept of an SCS task force backed up by a carrier task force?
- (81) Why are carriers most effective when operating in mutual support?
- (82) Does a "logistic tail" aid discovery of Task Force?
- (83) What is the combat potential of a massed Badger attack against a carrier task force?
- (84) What are ship-fill limitations as a function of tonnage?
- (85) What is ship vulnerability as a function of tonnage?
- (86) What is the incremental time for repair or replacement (Δt_r) as a function of tonnage and kill level?
- (87) What is SCS potential in a "projection" mission?
- (88) How do various world-wide naval strategies affect the (carrier) force "requirement"?
- (89) What is the potential of B-52 in an ASW role?
- (90) What are the generic differences between land-based and sea-based aviation?