

Aerospace Operational Doctrine
SEA SURVEILLANCE OPERATIONS

This manual is based upon United States Air Force basic doctrine embodying the doctrinal guidance for executing worldwide sea surveillance operations. It defines the concept, scope, and objectives of Air Force sea surveillance operations; identifies basic organization and control structure; and outlines fundamental principles for planning and operations.

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Chapter 1

CONCEPTS OF SEA SURVEILLANCE OPERATIONS

1-1. Introduction:

a. Air Force operations in any geographical area may consist of several concurrent and coordinated actions designed to support national objectives. Sea surveillance operations can be one of these actions. JCS Pub 1 defines sea surveillance as "The systematic observation of surface and subsurface sea areas by available and practicable means primarily for the purpose of locating, identifying and determining the movement of ships, submarines, and other vehicles, friendly and enemy, proceeding on or under the surface of the seas and oceans of the world."

b. Because of their global operations and inherent flexibility, Air Force aerospace forces possess a capability to provide timely information on maritime activity. This information can provide the basis for action by the national command authorities (NCA) and commanders of friendly forces.

1-2. Types of Sea Surveillance:

a. Strategic Sea Surveillance. Aerospace sea surveillance operations over open ocean areas which support the requirements of the NCA.

b. Tactical Sea Surveillance. Aerospace sea surveillance operations over designated ocean areas which support the requirements of friendly forces operating in a specific operational area.

1-3. Relationship to Other Air Force Functions:

a. Primary Functions. In performing sea surveillance operations, the Air Force will make maximum use of existing resources compatible with the requirement to perform assigned primary functions as listed in JCS Pub 2.

b. Collateral Functions. Sea surveillance operations complement and enhance the Air Force collateral functions of interdicting enemy sea power, conducting antisubmarine warfare (ASW), protecting shipping, and conducting aerial minelaying operations.

Chapter 2

ROLE OF AEROSPACE FORCES

2-1. General Considerations. Sea surveillance operations may be conducted to gain specific information to counter potentially hostile action, to furnish information to a central data base for use by the NCA, and for support of tactical action by operational commanders.

2-2. Objectives of Sea Surveillance Operations. The overall objective of sea surveillance operations is to provide information on maritime activity and potential threats to friendly forces.

a. Strategic sea surveillance objectives generally include the provision to the NCA of data on maritime activity beyond the scope of areas of current tactical operations and not of an immediate threat to friendly forces. These data are usually obtained by preplanned sea surveillance missions, but information may also be obtained from opportune sightings during other missions.

b. Tactical sea surveillance objectives are established to satisfy the requirements of tactical commanders for information which may affect the operations of friendly forces. The size of tactical sea surveillance areas depends on friendly and enemy weapon system capabilities. Tactical surveillance operations may be conducted for immediate or preplanned mission objectives.

2-3. Force Selection and Capabilities. All Air Force aerospace forces must be considered when evaluating capabilities and selecting forces to perform sea surveillance functions.

a. Forces selected for sea surveillance operations will depend upon the threat, the priority assigned to surveillance among other planned and ongoing operations, the capability of Air Force weapon systems, other missions of the supporting commander, economy of force and the requirement for mutual reinforcement, and support among elements of the operational command. The actual or potential threat to friendly forces, particularly high value naval units, may justify a heavy and nearly continuous use of selected aerospace forces.

b. Among the desirable characteristics for aircraft conducting sea surveillance operations are relatively high speed, long endurance, capability to detect and identify, and communications with higher and collateral commands.

c. Certain Air Force aircraft possess long-range capabilities which, supported by a system of

operational air bases, permit surveillance of all significant ocean areas. Other aircraft, operating from the US base structure can reach most ocean areas in the northern hemisphere. Aerial refueling extends the sea surveillance time and area coverage. High altitude long-endurance drones are also useful in this mission.

d. Air Force tactical aircraft can rapidly deploy to and operate from existing US and allied bases. From these bases, the range of USAF tactical aircraft allows surveillance of most of the main sea lines of communication in the northern hemisphere.

e. Air Force aerospace forces can detect ships by visual observation and by using the capabilities of available sensors. Platforms include aircraft, drones, and satellites. The most broadly available sensor is airborne search radar. However, side-looking airborne radar (SLAR); signals intelligence (SIGINT); infrared, electro-optical, photographic sensors; and electronic warfare systems may also be employed. New capabilities being developed for aircraft and satellites must be continually reviewed for their contribution to the sea surveillance function. Satellite borne sensors will significantly augment current capabilities. High altitude reconnaissance aircraft can now cover most open ocean areas. Long-range overwater flights can report ship detections during other missions.

f. The Air Force capability to identify ships at sea depends primarily upon direct visual observation and previous aircrew recognition training. Some SIGINT and electro-optical sensors permit ship identification beyond visual ranges.

2-4. Support of Air Force Collateral Functions.

Sea surveillance operations directly contribute to and are inherent in the Air Force collateral functions of sea power interdiction, ASW, protection of shipping, and aerial minelaying operations. Some aerospace vehicles used for sea surveillance can hinder, neutralize, or destroy enemy targets; some can also control and direct other friendly aerospace forces within the target area, provide ECM protection, or furnish early warning of immediate and impending threats. Employment of sea surveillance platforms capable of attack may deter enemy forces or degrade enemy tactics.

a. Sea Power Interdiction. Sea surveillance may provide intelligence information to influence tactical and strategic decisions. Once sea surveillance missions determine the location and

movement of enemy shipping or naval forces, aerospace strike forces can attack selected targets.

b. Antisubmarine Warfare. Sea surveillance operations contribute to ASW operations by increasing the exposure of enemy submarines to detection.

c. Protection of Shipping. Sea surveillance operations contribute to the protection of friendly shipping. Surveillance operations over broad ocean areas provide current intelligence information which aids efficient allocation and control of strike forces, shifting of convoy routes, or

allocating forces to protect convoys. Coastal surveillance may keep enemy threats at a distance and reduce risks to friendly convoys moving through inshore waters. Convoy escort by armed sea surveillance aircraft can also permit a faster response to a developing threat.

d. Aerial Minelaying. Sea surveillance operations contribute to aerial minelaying operations by providing intelligence information on friendly and enemy maritime activity including information of ship movement and concentrations, choke points, ports, and anchorages.

Chapter 3

COMMAND AND CONTROL

3-1. General Considerations. Air Force aerospace vehicles are capable of conducting sea surveillance operations throughout the spectrum of hostilities in support of joint, combined, or uniservice operations. Air Force forces employed in strategic and tactical sea surveillance and collateral functions may operate unilaterally or in support of naval forces. As prescribed in JCS Pub 2, para 30278, a directive to support another force does not effect transfer of command or operational control.

a. The conduct of sea surveillance operations requires coordination and integration of all forces involved to achieve common objectives through command relationships prescribed in JCS Pub 2 and the Unified Command Plan. The organizational structure and responsibilities outlined in these documents provide for centralized direction to coordinate the efforts of the forces committed and decentralized execution to accommodate the detailed actions of the units involved.

b. The unified and specified command structure is designed to accommodate all military operations within existing command channels and command relationships. Principles, doctrines, and functions governing joint forces organization and operations are presented in the National Security Act of 1947, as amended, and JCS publications, particularly in JCS 2.

c. Requests for Air Force collateral support of sea surveillance operations should indicate in detail the surveillance information required. The request should specify location, time, and duration of surveillance; mission priority; coordinating instructions; and applicable intelligence. The responsible Air Force commander will ascertain the resources required and take action to fulfill requests within his capabilities as constrained by the priorities of other assigned tasks.

3-2. Strategic Sea Surveillance Operations. Strategic sea surveillance is conducted under the operational control of the appropriate Air Force commander and includes preplanned and immediate response missions having an objective of locating and identifying maritime activity in open ocean areas. Additionally, other overwater missions may be required to report opportune sightings in support of strategic sea surveillance.

a. Strategic sea surveillance reports are channeled through the Ocean Surveillance Information System (OSIS) to be integrated with other intelligence information. Procedures and formats prescribed by the appropriate elements of the OSIS will be incorporated into command plans outlining reporting procedures for opportune sightings and for immediate response and preplanned missions.

b. The OSIS is an all source, automated system which receives, processes, and disseminates complete, timely, evaluated, and appropriately sanitized ocean surveillance information to (1) various levels of command (component, unified and specified, and national) for assistance in decision making, (2) the intelligence community for support of threat and trend analyses, and (3) US nondefense government agencies for support of economic and political analyses. OSIS consists of the central Naval Ocean Surveillance Information Center (NOSIC), three subordinate Fleet Ocean Surveillance Information Centers (FOSIC), and two additional Fleet Ocean Surveillance Information Facilities (FOSIF). These major elements of the OSIS are located geographically to serve the needs of the NCA, unified and specified commanders, and fleet commanders.

3-3. Tactical Sea Surveillance Operations:

a. Air Force forces may be tasked to conduct sea surveillance operations in support of friendly forces within a designated tactical area of operations. Normally, these operations are conducted over open ocean areas in support of a commander aboard a surface ship. However, in some circumstances, the supported commander may be airborne or ashore.

b. Air Force forces conducting sea surveillance in support of friendly forces will remain under the operational control of the appropriate Air Force commander and will respond to the tasking and requirements of the supported commander. As prescribed in JCS Pub 2, para 30276, the supported commander is responsible for the overall coordination and efficiency of operations. Specifically, the supported commander has the authority to designate targets or objectives, timing, and duration of the supporting action.

c. All sightings obtained during tactical sea surveillance operations will be reported to the supported commander rather than the OSIS.

Chapter 4

PLANNING AND OPERATIONS

4-1. General. The full capabilities of available Air Force weapon systems should be used when planning and conducting sea surveillance operations. Integration and coordination of all participating elements is of prime importance. If sea surveillance operations are required within a JCS designated sensitive area, the proposed surveillance activity will be submitted to the JCS for approval by the appropriate unified or specified commander.

4-2. Planning. When planning sea surveillance activities, intelligence collection priorities and operational planning factors must be considered in order to assure productive operations and to maximize the effectiveness of each mission.

a. **Intelligence Planning.** Planning for sea surveillance operations should include an evaluation of the operational area and current intelligence relating to maritime activity of interest in that area.

(1) Factors to be considered in an evaluation of a sea surveillance operational area include location of sea lanes, choke points, ports, islands, anchorages, currents, and other hydrographic details. Political boundaries, designated sensitive areas, and the territorial water of nations on the littoral of the sea area should also be considered.

(2) Current intelligence on maritime activity includes disposition, employment doctrine, objectives of the maritime forces, and potential threat to surveillance platforms.

b. **Operational Planning.** Sea surveillance operational planning is directed toward employing existing capabilities to detect, identify, and report activity on maritime forces. The planning to accomplish these objectives includes, as a minimum, consideration of the following missions:

(1) **Opportune Sightings.** Air Force commands whose forces participate in frequent overwater flights should develop a capability to report visual and sensor observations. Such observations will be conducted at the request of an appropriate agency provided they do not degrade accomplishment of the primary mission.

(2) **Immediate Response Missions.** Conditions may arise where Air Force aircraft are directed to conduct sea surveillance operations on short notice. Commands should insure that planning enhances their capability to respond to short notice tasking.

(3) **Preplanned Missions.** Plans addressing capabilities for both strategic and tactical sea surveillance operations of a recurring nature will be developed at the major command level. Such planning must recognize the need for interface with other commands and agencies concerned with similar missions.

4-3. Operations. Successful conduct of sea surveillance is based on the collection of accurate data concerning maritime activity and reporting of such data in a timely manner to an appropriate agency. The specific operations, the size of the area of interest, and the location of friendly operational forces will influence these requirements. The appropriate Air Force commander will exploit current capabilities to fulfill these strategic and tactical sea surveillance requirements with available resources. Surveillance missions must adhere to the rules of engagement established by the appropriate authority responsible for the area in which operations are being conducted.

a. Strategic sea surveillance operations over broad ocean areas will employ all available detection capabilities to locate and identify specific maritime traffic and targets of interest.

(1) Tasking requests should specify surveillance objectives. These could vary from intermittent position plots by sensor contacts, to visual identification, to continuous visual or sensor tracking.

(2) Initial information available to assist in locating vessels may vary from none to detailed descriptions and locations that have been obtained from other collection methods. To insure the most effective search of large sea areas, search patterns and other methods of locating and identifying maritime traffic will be developed to exploit the capability of respective Air Force weapon systems.

b. Normally, tactical sea surveillance operations are concerned with a relatively small ocean area. Therefore, objectives identified by the supported commander will influence specific procedures to be used within his area.

4-4. Training. Training requirements will vary weapon system. Training accomplished by aircrews selected to perform the sea surveillance mission should include maritime and naval vessel recognition, overflight procedures, rules of engagement, naval weapon systems capabili-

ty, surface to air weapons defensive maneuvering, ECM employment, command and control procedures, reporting procedures, search patterns and surveillance techniques. If possible, sea surveillance flying training should be conducted in conjunction with primary mission training. Training exercises should also include sea surveillance activities if applicable.

4-5. Reporting Procedures. The timely reporting of surveillance information is required to allow its exploitation. Major commands will develop procedures for reporting information to the OSIS or appropriate agencies. If appropriate and applicable, existing reporting channels and for-

mat (for example, CIRVIS report) should be used. Simplified, direct communication reporting procedures must be the goal. Information obtained during tactical sea surveillance operations is of immediate concern to tactical commanders. Communication capabilities of the weapon system, interservice coordination facilities, and specific requirements of the mission will determine the appropriate reporting procedures to be included in operational plans.

4-6. Major Command Responsibilities. Major commands will develop plans to perform strategic and tactical sea surveillance operations within the capabilities of assigned resources.

BY ORDER OF THE SECRETARY OF THE AIR FORCE

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