

**IDEX TO ORAL HISTORY OF
ADMIRAL FREDERICK HAYES MICHAELIS
UNITED STATES NAVY (RETIRED)**

A-4 Skyhawk

The United States supplied A-4 aircraft to Israel on an emergency basis during the Yom Kippur War in 1973, 141-143

Aircraft carriers

In the early 1950s the Royal Navy produced several innovations to improve aircraft carrier operations, 65-66; introduction in the mid-1950s of the capability to carry nuclear weapons, 67-70; as Chief of Naval Operations in the early 1970s, Admiral Elmo Zumwalt was unsuccessful in getting aircraft carriers home-ported in Greece, 143-145; construction of new ships in the 1970s, 151-152

Air Development Squadron Three (VX-3)

Based at Atlantic City, New Jersey, in the late 1940s and early 1950s, it helped develop tactics for the transition from propeller planes to jet aircraft, 46-48; unsuccessful attempt in the early 1950s to find a method for attacking railroads in Korea, 48-49; testing of new equipment from various manufacturers, 49-50

Air Force, U.S.

Development and testing of nuclear weapons in New Mexico in the early 1950s, 51-52; the Air Force was surprised in the mid-1950s when the Navy opted to develop a solid-fuel ballistic missile, Polaris, rather than using Jupiter, 71-72; in the early 1970s a large proportion of the Strategic Air Command staff was double-hatted to the Joint Strategic Target Planning Staff, 133-134; accommodation of visits to Offutt Air Force Base in the early 1970s, 136-137

See also Army Air Forces, U.S.

Air Force Pacific Fleet

Type command involved in the mid-1950s introduction of aircraft carriers' capability to carry nuclear weapons, 67-70

Aleutian Islands

U.S. battleship planes had difficulties getting back aboard ship because of fog during operations around the Aleutians in mid-1942, 21-22

Arco, Idaho

Site of Navy nuclear power training in the 1950s and 1960s, 84-86

Arkansas, USS (CGN-41)

Nuclear-powered cruiser that was the subject of contractor claims in the mid-1970s, 160-161

Army, U.S.

Efforts in the mid-1960s to develop sensors for use in Vietnam, 110-112

Army Air Forces, U.S.

A P-38 Lightning crashed onto the deck of the carrier Randolph (CV-15) in the summer of 1945, 34-35

See also Air Force, U.S.

Atomic Energy Commission

Oversaw the development and testing of nuclear weapons in the early 1950s, 51-60; supplied shipboard representatives when aircraft carriers began carrying hydrogen bombs in the mid-1950s, 68-70

Azores

Served as an intermediate stopping place when the United States supplied A-4 aircraft to Israel on an emergency basis during the Yom Kippur War in 1973, 141-143

Beers, Ensign Charles J., USN (USNA, 1940)

Managed to escape injury when the Japanese attacked his ship, the battleship Pennsylvania (BB-38), in December 1941, 18

Berlin, Germany

Visited by Naval Academy midshipmen in the summer of 1937, 11-12

Bombing

In the early 1950s the Naval Air Special Weapons Facility was established at Kirtland Air Force Base, Albuquerque, New Mexico, to test nuclear weapons and their delivery systems, 51-60; introduction in the mid-1950s of aircraft carriers' capability to carry nuclear weapons, 67-70; the ships of Carrier Division Nine operated in the Tonkin Gulf and conducted bombing operations against North Vietnam in 1967-68, 119-124

Bureau of Ordnance

Development work on guided missiles in the late 1940s, 41-42

Burke, Admiral Arleigh A., USN (USNA, 1923)

Did a superb job while serving as chief of staff to Vice Admiral Marc Mitscher in 1945, 36; as Chief of Naval Operations in the late 1950s, chose Polaris at the expense of Regulus, 72; provided a rough estimate of the number of ballistic missile submarines to be built, 91

Caldwell, Captain Turner F., USN (USNA, 1935)

Did excellent work on writing the rules of engagement during the Cuban Missile Crisis in the autumn of 1962, 93-95

Carrier Air Group 11

Operated in 1954-55 from the aircraft carrier Kearsarge (CVA-33) with a heavier all-weather capability than previously, 60-62

Carrier Division Nine

Small carriers that operated in the Tonkin Gulf and conducted bombing operations against North Vietnam in 1967-68, 119-124

Chester, USS (CA-27)

Heavy cruiser that in 1941 was one of the first ships in the U.S. fleet to be equipped with search radar, 14

Claims by Defense Contractors

The Naval Material Command faced multiple claims from defense contractors in the 1970s, 156-170

Classified Information

Strict security rules were observed during the Cuban Missile Crisis in the autumn of 1962, 95-97

Claude V. Ricketts, USS (DDG-5)

Was used in the mid-1960s to test the concept of multinational manning, 89-90

Clements, William P., Jr.

As Deputy Secretary of Defense in the mid-1970s, had a substantial role in settling contract disputes between the Navy and defense suppliers, 161, 167-169

Commercial Ships

In the early 1960s, OpNav studied the concept of putting Polaris missiles on board NATO commercial ships, 90

Computers

Study in the mid-1960s of tactical applications, 112

Congress, U.S.

Testimony in the 1960s on the controversial F-111 aircraft development program, 117-118; role in settling defense contractors' claims in the 1970s, 167-170

Connolly, Vice Admiral Thomas F., USN (USNA, 1933)

Testified against the controversial TFX/F-111 multi-service aircraft development program in the early 1960s, 117-118; in the late 1960s directed Michaelis to upgrade the strength and readiness of the naval air reserve, 127

Cooke, Lieutenant Commander Lemuel D., USN (USNA, 1939)

Died while flying in Air Development Squadron Three in May 1950, 50

Crommelin, Commander Charles L., USN (USNA, 1931)

Collected talented aviators when he formed Air Group 12 during World War II, 25

Cuban Missile Crisis

Captain Turner Caldwell did excellent work on writing the rules of engagement during the crisis in the autumn of 1962, 93-97

Demobilization

The Navy lost many well-trained individuals when they left the service soon after the completion of World War II, 38-39

Draper, Dr. Stark

Talented professor who taught a number of Navy students at the Massachusetts Institute of Technology in the late 1940s, 43-45

Dutch Navy

OpNav conducted a study in the mid-1960s on whether the U.S. Navy should help the Dutch Navy in its desire to operate nuclear-powered submarines, 106-109, 113-114

Dwight D. Eisenhower, USS (CVN-69)

Required extensive changes after completion in the mid-1970s in order to accommodate the F-14 fighter, 151-152

Education

Michaelis attended postgraduate school in aeronautical engineering, 1946-49, 40-46

Edwards, Captain David S., Jr., USN (USNA, 1934)

Was court-martialed in the late 1950s for his actions while commanding the fleet oiler Tolovana (AO-64), 81-82

Engineering Plants

In the 1950s and 1960s, prospective commanding officers of the aircraft carrier Enterprise (CVAN-65) studied in the Navy's nuclear power program, 83-86; frequency of refueling the Enterprise, 86, 97, 104; characteristics of the Enterprise plant in the mid-1960s, 98

Enterprise, USS (CVAN-65)

Training of prospective commanding officers in the late 1950s and early 1960s, 78-79, 83-86; frequency of refueling, 86, 97, 104; characteristics of the engineering plant in the mid-1960s, 98; handling qualities, 98; direct communications from Vice Admiral Hyman Rickover, 98-99; made an around-the-world cruise with nuclear escorts in 1964, 98-102, 106; won the battle efficiency E in the mid-1950s, 103; the heavy influx of guests was sometimes uncomfortable during operations, 103-104; nuclear power conferred an advantage when the ship operated in the vicinity of a typhoon during the Vietnam War, 105

F-14 Tomcat

The aircraft carriers Nimitz (CVN-68) and Dwight D. Eisenhower (CVN-69) required extensive changes after completion in the mid-1970s in order to accommodate the F-14, 151-153

F-111

Controversial multi-service aircraft development program in the early 1960s, 117-118

F2H Banshee

The F2H-3 version of this McDonnell aircraft was used to improve the all-weather capability of Carrier Air Group 11 in the aircraft carrier Kearsarge (CVA-33) in the mid-1950s, 60-62

Families of Servicemen

Were not eager to embrace the idea of having a U.S. aircraft carrier homeported in the Mediterranean in the 1970s, 145

Fighting Bombing Squadron Five (VBF-5)

Went through a training period in 1945 for possible combat duty, then performed in air shows, 37-38

Fighting Squadron 12 (VF-12)

Training in the United States in 1944-45, prior to deployment, 25-27; took part in bombing strikes against Japan, Iwo Jima, and Okinawa in early 1945, 27-28

Fire Control

Fire-control radar installed in the battleship Pennsylvania (BB-38) in early 1942, 21

Flight Training

U.S. program for fledgling aviators in 1942-43, 23-25; importance of adequate training before facing the Japanese, 34

Football

Michaelis had problems over the years with a knee injured while playing football at the Naval Academy in the mid-1930s, 8

Franklin D. Roosevelt, USS (CVA-42)

Made an exceptionally long deployment to the Sixth Fleet in the early 1970s, 140

Germany

Visited by Naval Academy midshipmen in the summer of 1937, 11-12

Greece

As Chief of Naval Operations in the early 1970s, Admiral Elmo Zumwalt was unsuccessful in getting aircraft carriers homeported in Greece, 143-145

Guided missiles

Early U.S. missiles, in the late 1940s, were plagued by difficulties, 40-41; Dr. Stark Draper of MIT did useful development work in the late 1940s, 45; development in the 1960s of the NATO Sea Sparrow, 115-116

Gunnery--Naval

In 1941 the outgoing 14-inch projectiles fired by the battleship Pennsylvania (BB-38) could be tracked on the ship's radar, 16

Helicopters

Role of rescue helicopters in recovering U.S. pilots downed during the Vietnam War, 121-122; use of lightweight HueyCobra attack helicopters during the Vietnam War, 122-123

Holloway, Admiral James L. III, USN (USNA, 1943)

Commanded the aircraft carrier Enterprise (CVAN-65) in the mid-1960s, during the Vietnam War, 103, 105; as Chief of Naval Operations in the mid-1970s, promoted carrier acquisition, 152; reaction when defense contractors made large claims against the government, 170

Israel

Received A-4 aircraft on an emergency basis during the Yom Kippur War in 1973, 141-143

Iwo Jima

Carrier aircraft supported the U.S. invasion of this island in February 1945, 28, 31

Japan

Initial carrier strikes against the Japanese home islands in February 1945, 27-28

Japanese Navy

Attacked U.S. warships at Pearl Harbor in December 1941, 17-19; use of kamikazes in opposing the U.S. invasion of Okinawa in the spring of 1945, 32-33; quality of Japanese aircraft, 33-34

Jet Aircraft

In the late 1940s and early 1950s, Air Development Squadron Three helped develop tactics for the transition from propeller planes to jet aircraft, 46-48; the necessity to change carrier operations to accommodate jets, 66-67

Joint Chiefs of Staff

In the early 1970s provided guidance to the Joint Strategic Target Planning Staff on strategy for the targeting of nuclear weapons, 138

Joint Strategic Target Planning Staff

Had the function in the early 1970s of integrating plans for the possible use of nuclear weapons, 132-138

Jupiter Missile

The Air Force was surprised in the mid-1950s when the Navy opted to develop a solid-fuel ballistic missile, Polaris, rather than using Jupiter, 71-72

Kamikazes

Japanese use of during the closing stages of war in 1945, 32-33; damaged the carrier Randolph (CV-15) at Ulithi in March 1945, 34

Kearsarge, USS (CVA-33)

Operated in 1954-55 with an air group that had a heavier all-weather capability than previously, 60-62

Kirn, Captain Louis J., USN (USNA, 1932)

Commanded the aircraft carrier Randolph (CVA-15) in 1957-58, 76

Kirtland Air Force Base, Albuquerque, New Mexico

Site of development and testing of nuclear weapons in the early 1950s, 51-52

Klouck, Chief Radioman Charles A., USN

As a crew member of the battleship Pennsylvania (BB-38) in mid-1941, he had a major role in the operation of the ship's radar equipment, 14

Korean War

Air Development Squadron Three made an unsuccessful attempt in the early 1950s to find a method for attacking railroads in Korea, 48-49

Lascara, Vice Admiral Vincent A., SC, USN

Did an outstanding job as Vice Chief of Naval Material in the mid-1970s, 158-159

Litton Industries

Designed the Spruance (DD-963)-class destroyers in the 1960s under the total package procurement process, 163-164; contract difficulties because of inflation in the 1970s, 164-165

Martin, Vice Admiral Harold M., USN (USNA, 1919)

As Commander Air Force Pacific Fleet in 1955, sent Michaelis to various aircraft carriers that were getting nuclear weapons, 67-69

Massachusetts Institute of Technology, Cambridge, Massachusetts

Michaelis studied under Dr. Stark Draper at MIT in the late 1940s, 43-45

McCampbell, Commander David, USN (USNA, 1933)

Was a flight training instructor in Florida in 1943, later shot down seven planes in the Marianas Turkey Shoot in 1944, 24-25

McDonald, Admiral David L., USN (USNA, 1928)

As Chief of Naval Operations in 1964, did not support an around-the-world cruise made by a nuclear-powered task force, 102

McNamara, Robert S.

Instituted many procedural changes when he became Secretary of Defense in 1961, 87; involvement in decisions concerning the number of fleet ballistic missile submarines to be built, 91-92; problems from his total package procurement process lingered even after he left the Defense Department, 163-165

Medaris, Brigadier General John B., USA

As Chief of Army Ordnance in the mid-1950s, was surprised in the mid-1950s when the Navy opted to develop a solidfuel ballistic missile, Polaris, rather than using Jupiter, 71-72

Medical Problems

Michaelis had problems over the years with a knee injured while playing football at the Naval Academy in the mid-1930s, 8; Michaelis had difficulty with his eyes as a midshipman, but they recovered, 10-11; the skipper of the fleet oiler Tolovana (AO-64) was court-martialed in the late 1950s, though he had mental problems, 81-82

Mediterranean Sea

Shore patrol arrangements in the late 1950s for Sixth Fleet ships, 75; the Sixth Fleet operated there with few fixed support facilities in the late 1950s, 77-78

Michaelis, Admiral Frederick H., USN (Ret.) (USNA, 1940)

Boyhood in Kansas City, Missouri, in the 1920s and 1930s, 1, 3-4; parents of, 1-5; sister of, 1, 3, 17-18; ancestors of, 2-4; as a Naval Academy midshipman, 1936-40, 3-12; study at Kansas City Junior College in the mid-1930s, 5-6; service as a junior officer in the battleship Pennsylvania (BB-38), 1940-42, 12-22; wife of, 22, 37, 44; received flight training in 1942-43, 22-25; served in Fighting Squadron 12 in 1944-45, rising to command the squadron, 25-36; children of, 37, 80; commanded Bombing Fighting Squadron Five in 1945-46, 37-40; attended postgraduate school in aeronautical engineering, 1946-49, 40-46; served from 1949 to 1951 in Air Development Squadron Three, 46-50; established and commanded the Naval Air Special Weapons Facility at Kirtland Air Force Base, Albuquerque, New Mexico, 1951-54, 51-60; in 1954-55 served as Commander Air Group 11, based on board the aircraft carrier Kearsarge (CVA-33), 60-67; brief tour in 1955 as special weapons officer on the staff of Commander Air Force Pacific Fleet, 67-70; served in 1956-57 as special assistant to the Assistant Secretary of the Navy for Air, 70-74; served in 1957-58 as executive officer of the carrier Randolph (CVA-15), 74-78; had a brief course of instruction at the Naval War College, 1958-59, 78-80; commanded the fleet oiler Tolovana (AO-64) in 1959, 80-83; underwent nuclear power training in 1959-60, 83-86; served 1960-63 in OpNav's Navy Plans Section, Division of Strategic Plans, 87-97; commanded the aircraft carrier Enterprise (CVAN-65), 1963-65, 97-106; served 1965-67 as Director of Development Programs in OpNav, 106-118; served in 1967-68 as Commander Carrier Division Nine, 118-124; served in 1968-69 on the staff of the DCNO (Air), 124-132; served 1969-72 as Deputy Director of Joint Strategic Target Planning, Offutt Air Force Base, Nebraska. 132-139; served as Commander Naval Air Force, U.S. Atlantic Fleet, 1972-75, 139-154; served as Chief of Naval Material from April 1975 to his retirement on 1 August 1978, 154-171

Mines

In early 1945 a downed U.S. aviator was lost near Japan because he ditched in a minefield, 29

Minter, Vice Admiral Charles S., Jr., USN (Ret.) (USNA, 1937)

Outstanding individual who had served in the aircraft carrier Randolph (CV-15) during World War II, 26; as DCNO (Logistics) had a challenge in studying Admiral Elmo Zumwalt's plan to homeport a U.S. carrier in the Mediterranean, 143-144

Mitscher, Vice Admiral Marc A., USN (USNA, 1910)

While serving as Commander Task Force 58 in 1945, had his flag briefly in the carrier Randolph (CV-15), 36

Moorer, Captain Thomas H., USN (USNA, 1933)

As executive assistant to the Assistant Secretary of the Navy for Air in the mid-1950s, arranged for Michaelis to join the staff, 70

Naval Academy, U.S., Annapolis, Maryland

Imposition of discipline on midshipmen in the mid-1930s, 6-7; football, 8; remoteness of superintendents from the midshipmen, 8-9; aviation orientation, 9; summer training cruises in the late 1930s, 11-12

Naval Air Special Weapons Facility, Kirtland Air Force Base, Albuquerque, New Mexico

Did developmental work on nuclear weapons in the early 1950s, 51-60

Naval Air Force Atlantic Fleet

Felt a strain in providing ships and aircraft to meet the operational demands of the early 1970s, 139-140, 146-147; supplied A-4 aircraft to Israel on an emergency basis during the Yom Kippur War in 1973, 141-143; construction of new aircraft carriers in the 1970s, 151-152

Naval Material Command

Components of in the mid-1970s, 154-156; faced multiple claims from defense contractors in the 1970s, 156-170; subject to studies by the Office of Management and Budget, 159; problems with the total package procurement concept lingered in the 1970s, 163-166

Naval Postgraduate School, Annapolis, Maryland

Michaelis attended postgraduate school in aeronautical engineering at Annapolis and MIT, 1946-49, 40-46

Naval Reserve, U.S.

Efforts in 1968-69 to build the strength and readiness of the naval air reserve, 125-132

Naval War College, Newport, Rhode Island

Provided a broadening experience for students who were there in the late 1950s, 79-80

Netherlands

OpNav conducted a study in the mid-1960s on whether the U.S. Navy should help the Dutch Navy in its desire to operate nuclear-powered submarines, 106-109, 113-114

Nimitz, USS (CVN-68)

Required extensive changes after completion in the mid-1970s in order to accommodate the F-14 fighter, 151-153

Nitze, Paul H.

As Secretary of the Navy in the mid-1960s, was involved in Dutch efforts to obtain nuclear-powered submarines, 106-109, 113-114

North Atlantic Treaty organization

Supported in the late 1950s by Sixth Fleet operations, 77-78; the concept of a NATO multinational nuclear force was developed in OpNav in the early 1960s, 88-90; in the early 1960s, OpNav studied the concept of putting Polaris missiles on board NATO commercial ships, 90; OpNav conducted a study in the mid-1960s on whether the U.S. Navy should help the Dutch Navy in its desire to operate nuclear-powered submarines, 106-109, 113-114; development in the 1960s of the NATO Sea Sparrow guided missile, 115-116; lost some aircraft support in the Sixth Fleet in the early 1960s because of the requirements of the Vietnam War, 140

North Vietnam

The ships of Carrier Division Nine operated in the Tonkin Gulf and conducted bombing operations against North Vietnam in 1967-68, 119-124

Norton, Garrison R.

While serving from 1956 to 1959 as Assistant Secretary of the Navy for Air, had a hand in getting the Navy into the Polaris program, 70-72; had a background in aviation, 73-74

Nuclear Power

Training program under Vice Admiral Hyman G. Rickover in 1959-60, 83-86; frequency of refueling the aircraft carrier Enterprise (CVAN-65), 86, 97, 104; characteristics of the Enterprise plant in the mid-1960s, 98; three nuclear-powered warships made a cruise around the world in 1964, 98-102; nuclear power conferred an advantage when the Enterprise operated in the vicinity of a typhoon during the Vietnam War, 105; OpNav conducted a study in the mid-1960s on whether the U.S. Navy should help the Dutch Navy in its desire to operate nuclear-powered submarines, 106-109, 113-114

Nuclear Weapons

In the early 1950s the Naval Air Special Weapons Facility was established at Kirtland Air Force Base, Albuquerque, New Mexico, to test nuclear weapons and their delivery systems, 51-60; introduction in the mid-1950s of aircraft carriers' capability to carry nuclear weapons, 67-70; the concept of a NATO multinational nuclear force was developed in OpNav in the early 1960s, 88-90; in the early 1960s, OpNav studied the concept of putting Polaris missiles on board NATO commercial ships, 90; in the early 1970s, the Joint Strategic Target Planning Staff had the function of integrating U.S. plans for the possible use of nuclear weapons, 132-138

OP-05

Efforts in 1968-69 to build the strength and readiness of the Naval Air Reserve, 125-132

OS2U Kingfisher

Battleship planes had difficulties getting back aboard ship because of fog during operations around the Aleutian Islands in mid-1942, 21-22; involved in rescue of downed aviators in the Inland Sea of Japan in 1945, 30

Office of Management and Budget

Conducted many studies on the Naval Material Command in the mid-1970s, 159-140

Offutt Air Force Base, Nebraska

See Strategic Air Command

Okinawa

Carrier aircraft supported the U.S. invasion of this island in February 1945, 31-33; Japanese use of kamikazes, 32-33

Oriskany, USS (CVA-34)

Served as flagship of Carrier Division Nine during strike operations against North Vietnam in 1967-68, 119-124

P-38 Lightning

Army Air Forces plane that crashed onto the deck of the carrier Randolph (CV-15) in the summer of 1945, 34-35

Pearl Harbor, Hawaii

The ships of the U.S. Fleet were essentially based at Pearl in 1940-41, 17; Japanese attack on the fleet in December 1941, 17-19

Pennsylvania, USS (BB-38)

First became equipped with radar in the summer of 1941, 13-16; the outgoing projectiles fired by the 14-inch guns could be tracked on the ship's radar, 16; the ship was essentially based at Pearl Harbor in 1940-41, 17; damage suffered during the Japanese attack on Pearl Harbor in December 1941, 19; steamed to San Francisco in late December for repairs, 19-20; fire-control radar installed in early 1942, 21; the ship was part of diversionary force during the Battle of Midway in June 1942, 21-22

Planning

The concept of a NATO multinational nuclear force was developed in OpNav in the early 1960s, 88-90; in the early 1960s, OpNav studied the concept of putting Polaris missiles on board NATO commercial ships, 90; in the early 1970s, the Joint Strategic Target Planning Staff had the function of integrating U.S. plans for the possible use of nuclear weapons, 132-138

Polaris Program

The Air Force was surprised in the mid-1950s when the Navy opted to develop a solid-fuel ballistic missile, Polaris, rather than using Jupiter, 71-72; Polaris was at the expense of the Regulus cruise missile, 72; in the early 1960s, OpNav studied the concept of putting Polaris missiles on board NATO commercial ships, 90

Polaris Submarines

In the early 1960s, OpNav conducted a study on how many fleet ballistic missile submarines to build, 90-91

Proxmire, William

U.S. Senator who had a hand in settling defense contractor claims in the 1970s, 167

Public Relations

The aircraft carrier Enterprise (CVAN-65) hosted a great many visitors during her around-the-world cruise in 1964, 98-100, 102, 106; hosting guests sometimes made operations uncomfortable for the crew of the Enterprise in the mid-1960s, 103-104; tours for visitors to the Strategic Air Command in the early 1970s, 136-137

Racial Unrest

Experienced in the Navy in the 1960s and 1970s, 147-150

Radar

Was little known in the fleet when it was installed in the battleship Pennsylvania (BB-38) in mid-1941, 13-16; fire-control radar installed in the Pennsylvania in early 1942, 21

Radford, Rear Admiral Arthur W., USN (USNA, 1916)

While commanding Task Group 58.1 in early 1945, summoned Michaelis to his flagship to talk about rescue of downed aviators, 29, 31

Railroads

Air Development Squadron Three made an unsuccessful attempt in the early 1950s to find a method for attacking railroads in Korea, 48-49

Randolph, USS (CV-15/CVA-15)

Aircraft carrier that went into service in 1944, 25-27; took part in bombing strikes against Japan, and Iwo Jima, and Okinawa in early 1945, 27-30; damaged by a kamikaze hit while at Ulithi Atoll in March 1945, 34; was hit by an Army Air Forces P-38 in the summer of 1945, 34-35; modernized with a new bow and angled deck in the mid-1950s, she was a crowded ship, 74-75; deployments to the Mediterranean in the late 1950s, 75-76

Refueling at Sea

The aircraft carrier Enterprise (CVAN-65) kept tanker aircraft in alert status on the flight deck during her around-the-world cruise in 1964, 100

Rescue at Sea

The rescue of downed U.S. aviators off Japan in 1945 was frequently difficult, 29-31

Rescue on Land

Role of rescue helicopters in recovering U.S. pilots downed during the Vietnam War, 121-122

Research and Development

In the early 1950s the Naval Air Special Weapons Facility was established at Kirtland Air Force Base, Albuquerque, New Mexico, to test nuclear weapons and their delivery systems, 51-60; the Air Force was surprised in the mid-1950s when the Navy opted to develop a solid-fuel ballistic missile, Polaris, rather than using Jupiter, 71-72; efforts in the mid-1960s to develop sensors for use in Vietnam, 110-112; study in the mid-1960s of tactical applications of computers, 112; Navy organizational structure for R&D in the 1960s, 112-113; development in the 1960s of the NATO Sea Sparrow guided missile, 115-116

Ricketts, Admiral Claude V., USN (USNA, 1929)

As Vice Chief of Naval Operations in the early 1960s, was interested in plans for a NATO multinational nuclear force, 88-90; supported an around-the-world cruise by a nuclear-powered task force until his death in 1964, 102

Rickover, Vice Admiral Hyman G., USN (USNA, 1922)

Ran the Navy's nuclear power training program in 1959-60, 84-86; was a difficult, impatient man to be around, 85-86; habit of communicating directly with the reactor officer of the aircraft carrier Enterprise (CVAN-65) in the mid-1960s, 98-99; would have preferred if the 1964 around-the-world cruise of a nuclear-powered task force could have been made with no stops at all, 104-105; used the services of an outstanding Supply Corps officer, Vincent Lascara, 158-159; took a strident position with regard to shipbuilders' claims in the 1970s, 161-163, 166-170; age was a problem during his final years on active duty, 170-171

Royal Navy

Produced several innovations in the early 1950s to improve aircraft carrier operations, 65-66

Rule, Gordon

Civilian executive who worked with the Naval Material Command on shipbuilding claims in the 1970s, 160-161

Rules of Engagement

Captain Turner Caldwell did excellent work on writing the rules during the Cuban Missile Crisis in the autumn of 1962, 93-97

Sea Sparrow Missile

Development in the 1960s of the NATO Sea Sparrow surface-to-air missile, 115-116

Seventh Fleet, U.S.

The ships of Carrier Division Nine operated in the Tonkin Gulf and conducted bombing operations against North Vietnam in 1967-68, 119-124

Shore Patrol

Arrangements in the Mediterranean and Western Pacific in the late 1950s, 75

Single Integrated Operational Plan

In the early 1970s, the Joint Strategic Target Planning Staff had the function of integrating U.S. plans for the possible use of nuclear weapons, 132-138

SIOP

See Single Integrated Operational Plan

Sixth Fleet, U.S.

Shore patrol arrangements in the late 1950s, 75; NATO commitments, 77; operated with few fixed support facilities in the late 1950s, 77-78; had an ASW carrier in an attack role in the early 1970s in order to get the Franklin D. Roosevelt (CVA-42) home from a long deployment, 140; as Chief of Naval Operations in the early 1970s, Admiral Elmo Zumwalt was unsuccessful in getting aircraft carriers home-ported in Greece, 143-145

Smith, Captain Daniel F., Jr., USN (USNA, 1932)

Commanded the carrier Randolph (CVA-15) in 1956-57, 76

Smith, James Hopkins

Served 1953-56 as Assistant Secretary of the Navy for Air, 70

Spruance (DD-963)-Class Destroyers

Designed in the 1960s under the total package procurement process, 163-164; contract difficulties because of inflation in the 1970s, 164-165

Strategic Air Command, U.S.

In the early 1970s a large proportion of the Strategic Air Command staff was double-hatted to the Joint Strategic Target Planning Staff, 133-134

Strategy

Work of the Strategic Plans Division of OpNav in the early 1960s, 88; in the early 1970s, the Joint Strategic Target Planning Staff had the function of integrating U.S. plans for the possible use of nuclear weapons, 132-138

Strean, Rear Admiral Bernard M., USN (USNA, 1933)

Commanded the carrier Randolph (CVA-15) in 1958-59, 76; commanded a nuclear-powered task force that went around the world in 1964, 101-102

Submarines

In the early 1960s, OpNav conducted a study on how many fleet ballistic missile submarines to build, 90-91; OpNav conducted a study in the mid-1960s on whether the U.S. Navy should help the Dutch Navy in its desire to operate nuclear-powered submarines, 106-109, 113-114

Sweden

Development efforts in the 1960s on submarine fuel cells and fighter attack aircraft, 114-115

Systems Analysis

Introduced to Department of Defense decision-making in the early 1960s, 87, 92-93

TFX

See F-111

Tactics

Based at Atlantic City, New Jersey, in the late 1940s and early 1950s, Air Development Squadron Three helped develop tactics for the transition from propeller planes to jet aircraft, 46-48; development in the 1950s of the loft method for delivering nuclear bombs, 54, 56-57; study in the mid-1960s of tactical applications of computers, 112

Total Package Procurement

Problems from this Robert McNamara process lingered into the 1970s, after he had left the Defense Department, 163-166

Tolovana, USS (AO-64)

Skipper in the late 1950s was court-martialed, although he had mental problems, 81-82; didn't have enough well-trained crew members in 1959, 82-83; was a challenging command for Michaelis, 82-83

Training

Summer cruises by Naval Academy midshipmen in the late 1930s, 11-12; flight training program for fledgling aviators in 1942-43, 23-25; Fighting Squadron 12 trained in the United States in 1944-45, prior to deployment, 25-27; importance of adequate training of U.S. pilots before facing the Japanese, 34; amount of training needed to operate successfully with various types of Navy equipment, 62-64; instruction in nuclear power, 1959-60, 83-86

Ulithi Atoll

A Japanese kamikaze plane damaged the carrier Randolph (CV-15) at Ulithi in March 1945, 34

VBF-5

See Fighting Bombing Squadron Five (VBF-5)

VF-12

See Fighting Squadron 12 (VF-12)

VX-3

See Air Development Squadron Three (VX-3)

Vietnam War

Nuclear power conferred an advantage when the aircraft carrier Enterprise (CVAN-65) operated in the vicinity of a typhoon during the war, 105; efforts in the mid-1960s to develop sensors for use in Vietnam, 110-112; the ships of Carrier Division Nine operated in the Tonkin Gulf and conducted bombing operations against North Vietnam in 1967-68, 119-124; role of rescue helicopters in recovering U.S. pilots downed during the bombing of North Vietnam, 121-122; use of lightweight HueyCobra attack helicopters during the Vietnam War, 122-123; enemy submarines did not pose a threat to U.S. carriers operating on Yankee Station, 123-124; in the late 1960s the war drained resources from other areas, 132; put heavy demand on naval aviation in the early 1970s, 139-140, 146-147

Walker, Lieutenant Commander Thomas J. III, USN (USNA, 1939)

Was involved in the early 1950s in the development and testing of nuclear weapons to be used by Navy aircraft, 51

Walleye

Smart, TV-guided bomb used against North Vietnam in the late 1960s, 119-120

Weather

Battleship planes had difficulties getting back aboard ship because of fog during operations around the Aleutian Islands in mid-1942, 21-22; Carrier Air Group 11 operated in 1954-55 from the aircraft carrier Kearsarge (CVA-33) with a heavier all-weather capability than previously, 60-62; conditions when a nuclear-powered task force made an around-the-world cruise in 1964, 101; nuclear power conferred an advantage when the aircraft carrier Enterprise (CVAN-65) operated in the vicinity of a typhoon during the Vietnam War, 105

Yom Kippur War

The United States supplied A-4 aircraft to Israel on an emergency basis during this war in the autumn of 1973, 141-143

Zumwalt, Admiral Elmo R., Jr., USN (USNA, 1943)

As Chief of Naval Operations in the early 1970s, had difficulty finding resources to match commitments, 140-141; as CNO was unsuccessful in getting aircraft carriers homeported in Greece, 143-145; was challenged on some of his mandates concerning personnel during his tenure as CNO, 145-150

