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Naval Air Station Keflavík, Iceland

The European nation of Iceland has some unique traits that few people realize. It is one of about five countries in the world with a 100% literacy rate. Coincidentally, nearly one shop in five is a bookstore in the capital city of Reykjavik, home to one-third of the country's population of about 260,000. The island, very close to the size of Virginia, is volcanic and still geothermally active with hot springs harnessed to heat homes and enable greenhouses to grow bananas. One furiously rushing spring, named Geysir, became the origin of the word "geyser". Belying her name, Iceland is proportionately warmer and greener than Greenland, thanks to Atlantic currents that never allow her harbors to freeze. Long winter temperatures average around 32 degrees Fahrenheit. On the very coldest days of December, she will typically be twenty degrees warmer than central Germany. Yet, an eighth of the island is covered by

glaciers, including Europe's largest. Only one-fourth of the land is workable, but mild summers of temperatures approaching the mid-fifties and long daylight hours, allow a growing season for potatoes, hay and grasslands for a large population of sheep. The mingling of warm and cold ocean currents keep the waters abounding with fish, mainstay of the Republic's economy.

Perhaps Iceland's greatest feature is her strategic location. During the cold war, this base became the front line for ASW in the Atlantic, with the drone of the Orion engine heard around the clock, into the endless dark of winter, through the perpetual daylight of summer. For all the years of the transiting submarine, the aircraft hunted the underwater highways that passed alongside Iceland. It has been said that Iceland was the essential key which brought about the demise of Soviet expansionism.

The Naval Air Station at Keflavík has long been a haven for maritime patrol aviation. P-3 squadrons from around the world have used it as a deployment or detachment site; the U.S. and Netherlands are ever present. From this base surface shipping may be monitored. Joint NATO exercises become logistically convenient and operationally preeminent. Anti-submarine Warfare training may be practiced like no other place in the world. It is the real world ASW experience available in KEF, that is critical in keeping the ASW skills of P-3 crews at peak efficiency.

Keflavík operations also include training opportunities for shallow water antisubmarine warfare. Because of the close proximity to the coastal waters of Norway, deployed crews can participate in patrols of Norway's coastline for real world experience in MPA in the Nordic fiords.

With a perceived future threat posed from the proliferation of ex-Soviet diesel submarines being sold to unfriendly third world powers, the Navy has focused on shallow water ASW skills by initiating the ASW Training Improvement Program (AWTIP). The program stresses methods of detecting both diesel and nuclear submarines, considering their characteristics and operating parameters in the “brown” water environment. The challenge is two-fold — to differentiate the contacts from the enormous amount of ambient surface clutter and to deal with sound propagation and bottom scatter noise distortions common to the shallow water environment. The AWTIP training program is reminiscent of the intensive initiative that took place for training against the first nuclear submarines.

ICELAND'S BACKGROUND

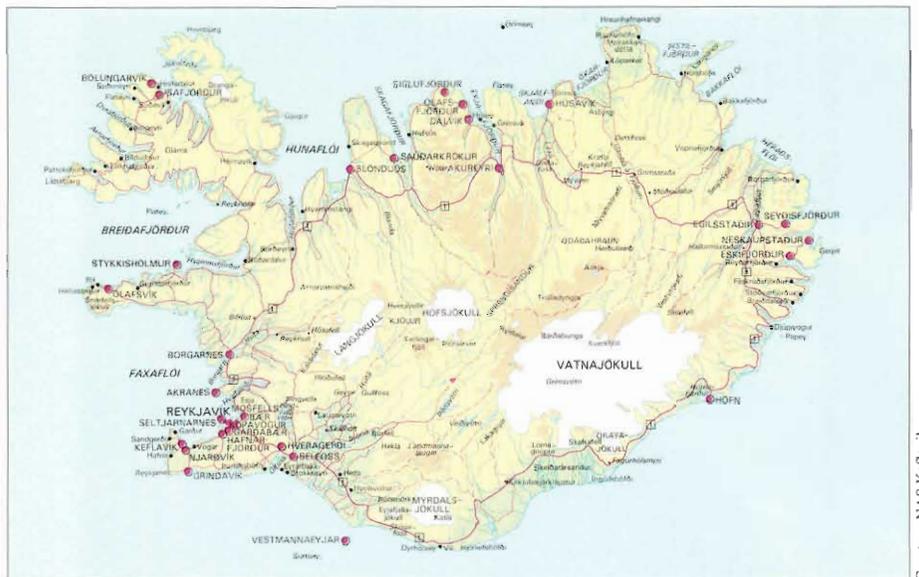
The earliest settlers to arrive on the island of Iceland were Norsemen fleeing an autocratic king. The year was 874, during the heart of the Viking explorations and raids. It was about a hundred years before the birth of Leif Eriksson, who landed somewhere in the Americas close to the year 1000. Today's descendants are predominantly of Nordic and Celtic background. Their language, Icelandic, is much like Old Norse, kept pure through the centuries by isolationism. The quest for a fair government survived as well, with an assembly, their “Althing”, the world's oldest surviving parliament.

Iceland grew into an independent republic, officially between the years of 930 and 1262, when she joined Norway. The Danish ruled from 1381 to 1918, maintaining a close relationship after that, then severed all ties by the early '40s, giving Iceland full independence.

During World War II, Iceland was the key to bridging the gap between North America and Europe. United States forces constructed the air field at Keflavik as a re-fueling point for aircraft deliveries and cargo flights to the war in Europe. After the war, Keflavik continued to support flights to the occupation forces in Europe. The U.S. maintained and operated the airfield as the winds of the Cold War began to blow in from the east. The Icelandic government quickly realized the strategic potential of their island, but with such a small populace and no military, she had no prospect for



VP-5



Courtesy NAS Keflavik



Scott Van Aken

The Royal Netherlands Navy has a P-3 permanently attached to NAS Keflavik.

ICELAND



Yankee class submarine enroute to the open ocean, unsuccessfully attempts to squeeze by Iceland.



Located just south of the Arctic circle, Iceland has easy access to strategic polar locations.

a solid defense. So in 1949, Iceland became one of the founding nations of NATO. This move provided Iceland with protection and provided NATO members with a strategic base. In 1951 Iceland signed a defense agreement with the United States in concordance with the earlier NATO accord. The agreement provides the NATO air base facility to be operated by the U.S., in exchange for U.S. military defense of the island nation.

NAVAL AVIATION IN ICELAND

Naval Air Station Keflavík is responsible for all airfield operations and all support services, facilities, housing and so forth. It is under the authority of the U.S. Navy via the Iceland Defence Force. The Iceland Defence Force (now commanded by RADM

Stanley W. Bryant) is a sub-unified command composed of approximately 2,700 members of all four services. The IDF falls under the jurisdiction of the U.S. Atlantic Command (USACOM).

The U.S. Navy Rear Admiral commanding the Iceland Defence Force is responsible for three other commands. First, he is the commander of Fleet Air Keflavík, the senior Navy command at NAS Keflavík. Second, he is the commander of Iceland Sector Antisubmarine Warfare Group (CTG 84.1), which exercises operational control of all maritime patrol missions and those MPA forces from NATO who are at Keflavík. Third, he is Island Commander Iceland, a NATO command that falls under the Commander-in-Chief, Eastern Atlantic (CINCEASTLANT).

As a part of the drawdown, NAS Keflavík recently assumed responsibility of all MPA forces operational from Lajes in the Azores.

KEF based Orions are now detached to the Azores for operational missions and for support of transiting carrier battle groups.

NATO IN ICELAND

Iceland is open to those member nations wishing to conduct MPA operations from her shores. Often these operations are coordinated into multinational training exercises to support the primary NATO mission of maintaining a presence in the Arctic.

Several Keflavík Tactical Exchanges (KEFTACEX) are flown by NATO partners, Canada, France, Germany, Norway, the Netherlands, Italy, The United Kingdom and the United States. Both Germany and Norway often provide diesel submarines to act as "hostiles" during the exercises. The subs are the same types that are being purchased by third world countries, which adds value to the training opportunities for P-3 crews.

As NATO grows both in membership and mission and as the organization becomes more influential as a force, the practice of working together outside the realm of crisis, increases in importance. Iceland provides the neutral ground in a strategic location which is setup for NATO support. She also brings to life North Atlantic operations, and presence, for nations with Maritime Patrol Aviation capability.

At times working together as a joint force can get interesting. The NATO forces have participated with the sub-unified command of the IDF which includes the U.S. Air Force. A typical circumstance is a mine warfare exercise, where the Air force may use F-15s to protect P-3s on a mining mission from "hostile" F-16s provided by Norway.

THE DUTCH IN ICELAND

One common sight on the PATRON Keflavík flight line is the distinctively painted Orions of the Royal Netherlands Navy. A single aircraft detachment is the result of a military agreement made at the request of the Icelandic government to have the plane permanently deployed. The aircraft is properly under the command of NATO, but it operates as part of the Iceland sector ASW group in unison with the U.S. Navy.

The Dutch P-3s perform KEF OPS alongside the American Orions and participate in NATO interoperability operations such as mine warfare exercises. The training benefits the Dutch crews immensely. In addition to training, the aircraft is positioned to provide vital support to their air force. One particular tasking includes assuming the SAR guard for transiting Royal Netherlands Air Force F-16s. Similar to the Canadian Aurora's "Duck Butt" mission, the Dutch "Goose Bay Ferry" flights position a P-3 in an orbit over the southern tip of Greenland. The crew performs communication relays and maintains a SAR-ready status.

POTENTIAL IN ICELAND

Today, Iceland still maintains her importance as a strategic location for ASW operations, in tracking the new Russian advanced-technology submarines that are currently being manufactured. Although the tempo of ASW operations out of Keflavík has decreased, the threat potential of these platforms, has not.

Keeping up with what is going on underwater is the "ounce of prevention" that "can save a pound of cure".

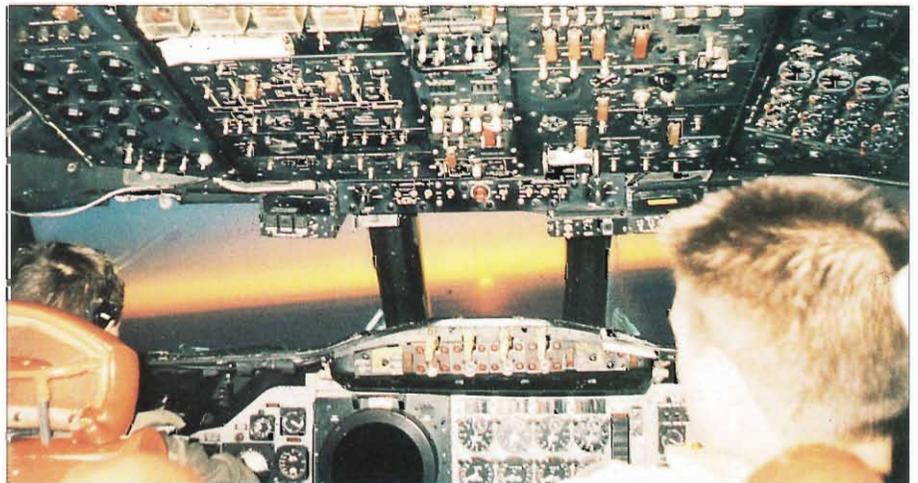
In the world of real estate, it is said that location is everything. In the world of reality, where crisis follows crisis, location is also everything. Iceland continues to prove her value as time goes on and the pace of activity, based out of NAS Keflavík, is ever increasing. ★

—Article by David Reade and Bob Harper



VP-5

Keflavík's base airplane, a UP-3A (BUNO 150495), is operated by the Organizational Maintenance Department. It is used for logistical support and has been configured with 45 airline seats, a conference table and state-of-the-art communications and navigation avionics, including weather avoidance radar. The Nordic mythological maiden, Valkyrja, guardian of souls, adorns the tail. Below, a view of the midnight sun.



Scott Van Akin



VP-5



Chrysler Technologies

Naval Air Warfare Center P-3s 154589, 150499 and Project Magnet Orion 158227 undergoing NAV/COMM upgrade at Chrysler Technologies.

NAWC P-3 Upgrade Program And Redesignation Objective

by
David Reade

In an effort to standardize the configurations of Naval Air Warfare Center P-3s, NAWC has initiated an upgrade project to address communications, navigation, and safety of flight for its variant Orions.

Candidate aircraft are those directly involved in research, development, test and evaluation, and are operated in the following areas:

- Naval Air Warfare Center, Aircraft Division, Warminster, PA
- Naval Air Warfare Center, Aircraft Division, Patuxent River, MD
- Naval Research Laboratory, flight support detachment, Patuxent River
- Naval Air Warfare Center, Weapons Division, Point Mugu, CA

With the downsizing of the military industrial complex, the RDT&E testbed and range support Orions are in great demand; they have seen a marked increase in utilization in recent years. As a result, the aircraft are in need of modernization to improve and extend their usefulness as valuable and unique test platforms.

Most of the aircraft are P-3A and P-3B variants and have 1960 and '70 navigation and communication components. The upgrade will improve performance and reliability by replacing systems with units compatible to the fleet and requirements stipulated by the FAA. New NAV/COM components include dual AN/ARC-159 UHF radios, SATellite COMMunications, additional or dual LN-72 Inertial Navigation systems and GAPS units.

Another part of the upgrade addresses safety of flight concerns with an effort to standardize cockpit avionics configurations. Included will be the installation of dual

AN/AN-140 VCR/IFS Glideslope sets, marker beacon receiver sets and an Attitude Director system with ID 1329/A indicators for consolidation of navigation displays.

The program also provides for the incorporation of an AN/APN-234 color weather radar. This provides the pilot with a weather avoidance capability, establishing the direction of a clear flight path through cloud formations, thunderstorms, high rainfall intensities and even icing conditions.

The upgrade program will be performed by Chrysler Technologies Airborne Systems, Inc. in Waco, Texas. Since 1990 Chrysler has modified over 130 P-3 A/B/C models from simple GFE installations, through design manufacture of specific AFC mod kits and complex structural changes. In 1992 they converted two P-3Bs to EP-3J C³CM Navy fleet training aircraft. Chrysler has also recently performed the first non-NADEP conducted standard level depot maintenance rework of a civilian/government P-3. The SDLM was done on NASA's P-3 "EFIS" remote sensing aircraft earlier this year.

Under the NAWC upgrade program, Chrysler will manage and provide the design engineering, manufacture the MOD kits and install the component systems into the aircraft. All avionics and equipment are to be off-the-shelf, non-developmental. Continued care of the suite, IFS services, will be provided by Chrysler as well.

As each plane completes the upgrade it will receive a new designation. NAWC headquarters has received approval to redesignate all the RDT&E Orions under a one-type designation. This includes RP-3A, RP-3D, EP-3A, EP-3B and several testbed UP-3A variants. The new designation will be NP-3D. This move is an effort to reduce the number of Navy aircraft designations and also to lump the miscellaneous configurations of RDT&E Orions under one model manager. ★

NP-3D ORIONS OF THE NAVAL AIR WARFARE CENTER

NP-3D is the new designation for the various P-3s belonging to the Naval Air Warfare Center. Where each of the uniquely configured aircraft have been so drastically modified from their original design and are beyond any practical economic limits to restore them to their former use, and in consideration of the upgrade and previous engine change, the NP-3D designation more aptly defines the condition of the special test Orions.

All significantly configured NAWC aircraft will receive some form of redesignation. Over a dozen other types will include the NF-14D, NF/A-18A, NA-6C, NSH-60B and so on.

148883	NAWC	Patuxent River
148889	NAWC	Willow Grove
149674	NRL	Patuxent River
150499	NAWC	Point Mugu
150521	NAWC	Point Mugu
150522	NAWC	Point Mugu
150524	NAWC	Point Mugu
150525	NAWC	Point Mugu
152150	NAWC	Willow Grove
153442	NRL	Patuxent River
153443	NAWC	Patuxent River
154587	NRL	Patuxent River
154589	NRL	Patuxent River
158227	NRL	Patuxent River



Mike Grove



Craig Kaston

RP-3A number 150525 (left) on Moffett Field taxiway. "Billboard" P-3s (right) decorate the ramp at Pt. Mugu Test Center. Below an EP-3B Electronic Warfare Simulator/Evaluator of the NRL.



NAWC P-3 Orion Surveys Floods

On 12 July 1994, as President Clinton inspected the floods of Southwest Georgia caused by the remnants of Tropical Storm Alberto, a NAWC P-3 from NAS Point Mugu, California surveyed the swollen Flint River submerging the town of Bainbridge.

DAVE READE



A few days after this photo was taken, the Flint River finally crested at 37 feet, 13 feet above flood stage. Over 300 homes were submerged with a total damage assessment exceeding \$40 million dollars. The death toll reached 31.

The Naval Air Warfare Center P-3 was equipped with AMPS, the Airborne Multisensor Pod System developed by the Department of Energy in association with the National Laboratories and INFOTEC, Development Company.

The survey consisted of crisscrossing the Flint River and the town of Bainbridge, collecting and recording remote sensing imagery for use by the Federal Emergency Management Agency (FEMA). The AMPS pods collected multispectral infrared, video and Synthetic Aperture Radar imagery of the flooded area prior to the crest of the river. Subsequent flights will provide more imagery to help in assessing insurance claims. Similar flights were conducted for FEMA on the 1993 mid-west floods by a NAWC Warminster P-3 modified with a SAR radar. ★



U.S. NAVY

The Airborne Multisensor Pod System attached to the P-3.

Australian P-3C Set For Refurbishment

Three Australian companies and a U.S. company were identified for an upgrade on Royal Australian Air Force P-3s. The refurbishment will consist of replacing older, heavier avionics and equipment which has become less capable and more difficult to support. Overall, the mission effectiveness will improve substantially, the weight will be reduced somewhere around 3000 pounds and the fatigue life will be increased. The project, explained in detail in the Fall '93 issue of the *Airborne Log*, includes a new radar, navigation and communication systems and a new acoustic processor and data management system.

The primary contractor of the project will be E-Systems of Dallas, TX. Three Australian companies will also participate. E-Systems will handle the development, engineering, aircraft prototyping and testing phases. ASTA, AeroSpace Technologies of Australia, will perform modification of aircraft 2 through 17 at its Avalon, Australia facility. They will also be responsible for Integrated Logistics Support management. AWADI, AWA Defense Industries of Australia will lead development and initiation of the integration and test and training facility in Australia and develop the Operational Mission Simulator software. Honeywell of Australia will perform the navigation system upgrades, cockpit modification and weapon systems maintenance training.

Eighteen aircraft will be modified in about 5 years time. Once completed, the aircraft will be redesignated "AP-3C" Orions. ★



RAAF