

Sikorsky Archives News

April 2016

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Igor Sikorsky's large cabin single main rotor helicopters revolutionized the energy, health and other industry's transportation requirements during the 1950s

The U.S. Army was the first customer for Sikorsky helicopters. As favorable performance and good operational experience was gained, the U.S. Navy procured Sikorsky helicopters for ship based operation. During this period the petroleum and gas industries were exploring the oceans for natural resources, and the need for fast air transportation to offshore oil and gas platforms became a mayor requirement. Sikorsky Aircraft was producing large cabin helicopters which had the range and passenger capabilities to provide the air transportation requirements for the offshore oil and gas industry. Utilizing the helicopter for the offshore market required new concepts and provisions for safe landing and take off facilities at sea.

In 1928 the Armstrong Seadrome Development Company designed and marketed a floating airport shown in the right photo to support trans ocean air travel for amphibian aircraft like the Sikorsky S-38 and S-39. The Seadrome concept was replaced by the larger Sikorsky amphibian and flying boats aircraft which provided trans oceanic travel not requiring mid ocean landings.

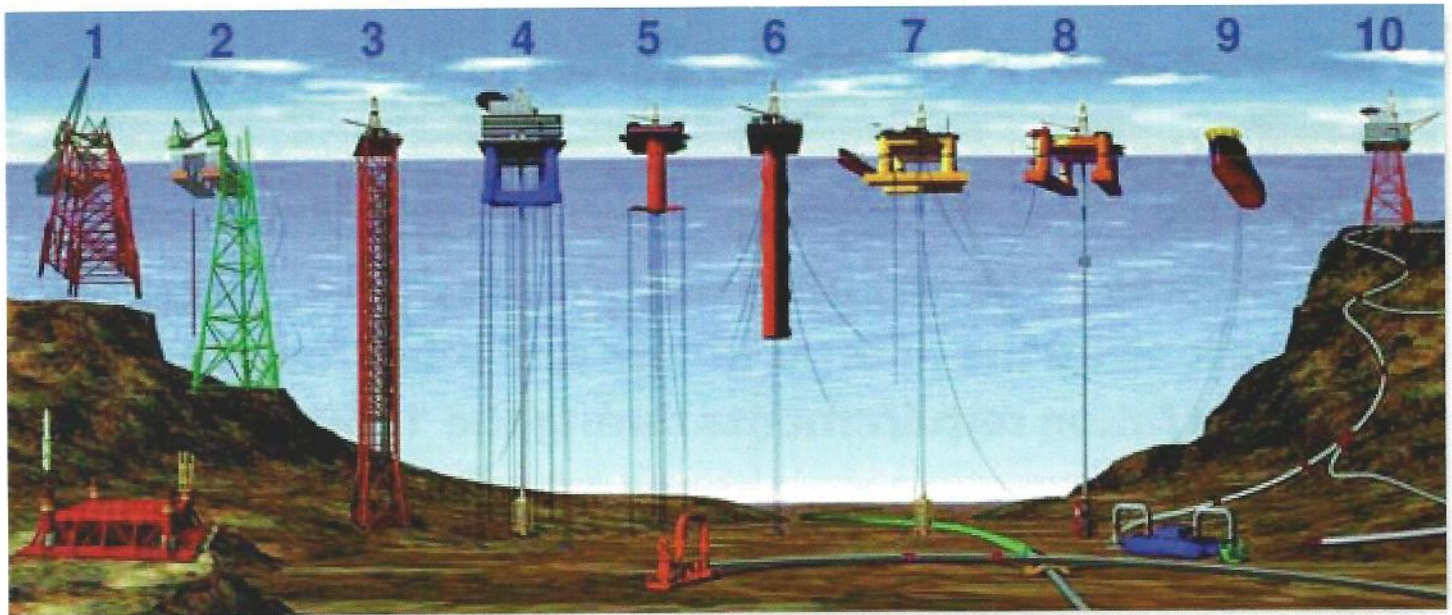


The left photo shows the S-55 approaching the helideck of a working ship adjacent to the oil rig, which was typical of the initial oil rig support operation in the 1950s. As the offshore industry grew, the oil rigs went farther out to sea and included living quarters and operational working space requirements on a more permanent basis. This issue of the newsletter covers the different types of offshore rigs utilized to recover the vast amounts of petroleum and natural gas sources deep below the ocean floor, as well as land based helipads for medical response, inner city executive transport and other unique missions.

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Contact us at iisha@snet.net 203.386.4356

The types of oil and gas platforms utilized in the offshore oil and gas industry is shown in the following illustration obtained from Wikipedia



- 1 and 2 are conventional fixed platforms. In 1991 Shell's Bullwinkle was the deepest at 1,353 feet.
- 3 is a compliant tower. Chevron Texaco's Petronius was the deepest in 1998 at 1,754 feet.
- 4 and 5 are vertically moored tension leg and mini tension leg platforms. The deepest is Conocco Phillips Magnolia in 2004 at 4,674 feet.
- 6 is a spar platform. Dominion's Devils Tower in 2004 had a depth of 5,610 feet.
- 7 and 8 are semi submersibles. The deepest was Shell's Nakika in 2003 at 6300 feet.
- 9 is a floating production, storage and off loading facility. Deepest in 2005 was in Brazil at 4,429 feet.
- 10 is a sub sea completion and tie back to host facility. Shell's Coulomb tie to Nakika in 2004 was at 7,570 feet.



In 1960 Germany's largest oil field "Mittleplate" was discovered in the North Sea approximately four miles from shore. Their first fixed platform in the North Sea was "Mittleplate A" shown in the left photo. The drilling rig is shown in the upper left corner, and the living quarters for 96 people is shown in the lower right corner of the oil rig complex. A helipad for air transport is built on the roof of the living quarters building.

Plans include construction of pipe lines from fixed platforms to shore for oil processing and returning the extracted water back to the drilled holes in the ocean floor. Environmental concerns are a prime consideration.

"Mittleplate A" is Germany's first fixed platform in the North Sea

The offshore industry accelerated the requirement for twin turboshaft engined helicopters to provide safe and reliable air transportation to the offshore platforms

Sikorsky Aircraft designed and produced the first twin engine SH-3 Sea King helicopter for the United States Navy and the S-61 for commercial operation during the 1960s. The aircraft were powered by the General Electric T-58 turboshaft engines.

During the 1970s Sikorsky Aircraft created the S-76 series of commercial and medivac helicopters. The first customer for the S-76 was Air Logistics operating from Lafayette, Louisiana providing offshore oil support in the Gulf of Mexico. After a number of business restructuring and acquisitions with Bristow Helicopters, the company has been renamed The Bristow Group, and they are in offshore oil rig support around the world.



S-61N operated by KLM on an offshore helipad



Air Logistics first S-76 offshore helicopter on oil platform



S-61 landing on oil platform



Moving an oil platform by boat

There are over 1400 offshore drilling platforms in worldwide operation

The location and quantities of rigs in each area of the world is shown in the chart at the bottom of this page. There is no one standard rig configuration employed in the industry. The configuration of the rigs is a function of the fuel type being extracted, the environmental consideration, the distance from shore, the water depth, and the cost involved to drill for the fuel. The variations in rigs currently being employed are shown in the photos. The rigs are partially dissembled and relocated by towing or transported by barges to new locations as required. The helicopter is the primary rapid transportation mode for people and supplies .



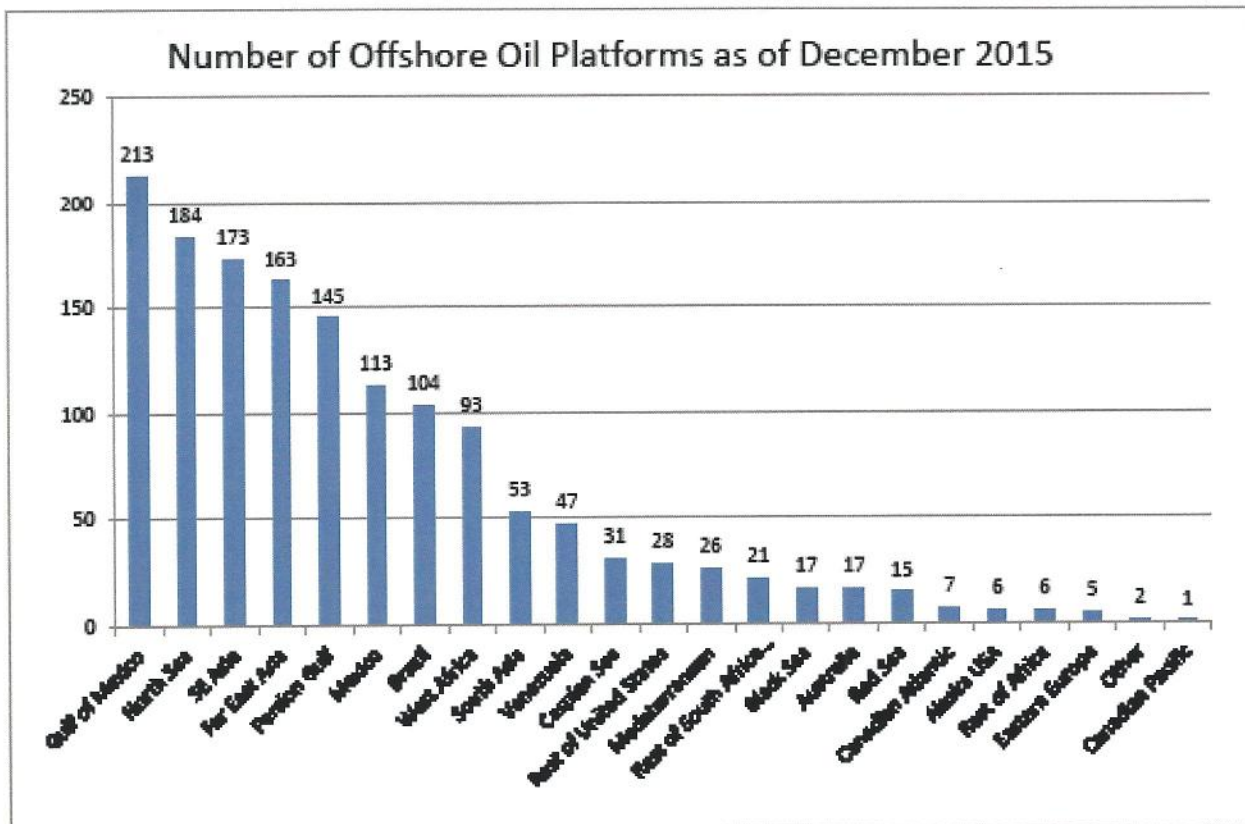
S-76 taking off from an oil rig



S-92 flying past North Sea oil platform



PHI S-92 flying past rig complex



The helicopter's vertical lift capabilities makes it an ideal aircraft for operations from hospital roof tops, airport facilities and other helipad locations

Palm Beach County, Florida Fire Rescue Service operates two S-76 Trauma Hawks for Medevac missions. The two Trauma Hawk helicopters shown on the right are stationed at the Palm Beach International Airport.



S-76 Trauma Hawks



S-76 on hospital roof helipad



MH-60 on Maui Memorial Hospital roof helipad in Hawaii



S-76 landing on roof of a children's hospital



S-76 on hospital roof helipad In Florida



S-61 on New York Port Authority building roof



Helipad that is built on top of an air turbine structure

Sikorsky Aircraft has provided United States Presidential Helicopter Service

The first Marine One Helicopter Squadron to carry United States presidents was during Dwight D. Eisenhower's administration. The S-58 (UH-34) was the first helicopter selected for the presidential mission. Marine One is the call sign when the president is on board. The S-58 was replaced by the S-61 (VH-3) in 1961, and has been carrying United States presidents to-date. Sikorsky has been awarded a contract to replace the S-61 (VH-3) with the S-92 (VH-92). The S-92 is currently being modified to meet the presidential requirements.



President Dwight D. Eisenhower leaving UH-34



VH-3 is maneuvering to land on the White House helipad comprised of three hard pads imbedded in the grass lawn for the landing gear to rest on. This is the smallest helipad in the world.

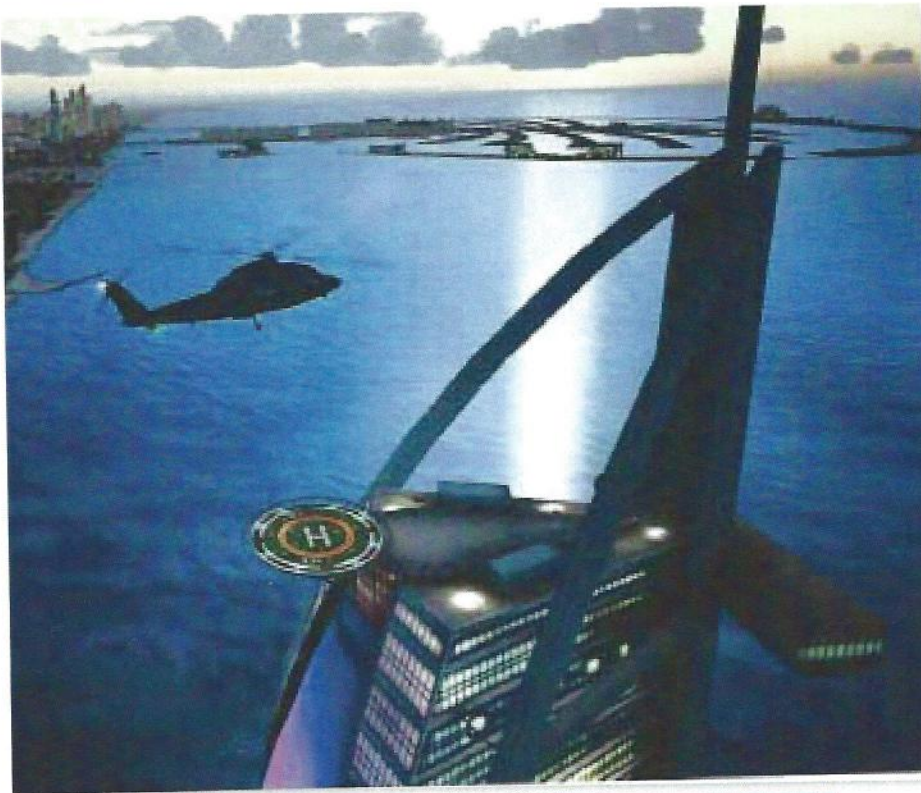


VH-3 hovering in front of the White House



S-92 The Next Presidential Helicopter

The building and helipad above the roof of the Burj Al Arab Hotel In Dubai may be the most unique structure in the world. It has a helicopter pad that can be used as a tennis court or wedding location. An S-76 is shown preparing to land on the helipad at sundown



Roof Top Helipads In City Centers



Century City, California



Yokohama, Japan

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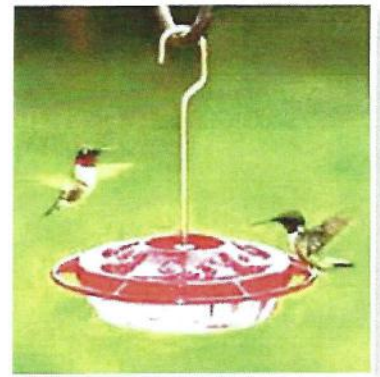
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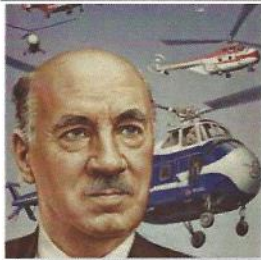
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The American Helicopter Society's humming bird logo unites Igor Sikorsky's industry with nature



Newsletter designed and edited by Lee Jacobson and archive members with graphic art assistance by Jodi Buckley.



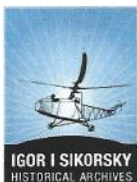
“A flying machine rising directly from the ground by the action of a lifting propeller was most appealing to my imagination. The helicopter approaches closer than any other vehicle to fulfillment of mankind’s ancient dream of the flying horse and the magic carpet.”

Igor Sikorsky

The Sikorsky Archive Calendar for 2016 erroneously listed two dates for the first flight of the S-21 - April 8th and May 13th. The correct date is May 13th.

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