

THE CHRISTENING OF CHEYENNE SSN 773

NEWPORT NEWS SHIPBUILDING
APRIL 1, 1995





CHEYENNE SSN 773

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ELCOME to the christening of the submarine *Cheyenne* (SSN 773).

A ship christening is a time-honored ceremony that has spanned thousands of years. It's a joyous event that signifies the baptism of a ship before it enters its natural element, the water.

From the shipbuilder's perspective, the christening marks an important milestone in the ship's evolution from flat steel plate to becoming an active ship in the fleet. In 109 years of operation, Newport News Shipbuilding has christened nearly 800 vessels, from tugboats and luxury yachts to sophisticated submarines, cruisers and aircraft carriers.

But today's event is particularly poignant. It marks our last *Los Angeles*-class submarine — the end of a product line for the foreseeable future.

Newport News started building nuclear submarines for the Navy in the early 1960s. In the mid-1970s NNS was the design agent and lead builder of the *Los Angeles* class of submarines. *Cheyenne* is our 53rd submarine, and our 29th in the *Los Angeles* class.

Literally thousands of sailors have served on Newport News-built submarines over the past 35 years. And our submarines have served their country well.

Cheyenne will be no exception. After its delivery in 1996, Commander Ozimek and his fine crew will take *Cheyenne* to the vast oceans of the world — where sailor and ship test their limits as a team.

Cheyenne will carry Newport News' hallmark of quality around the globe. And with it will always go the pride, skill and craftsmanship of the men and women of Newport News Shipbuilding.

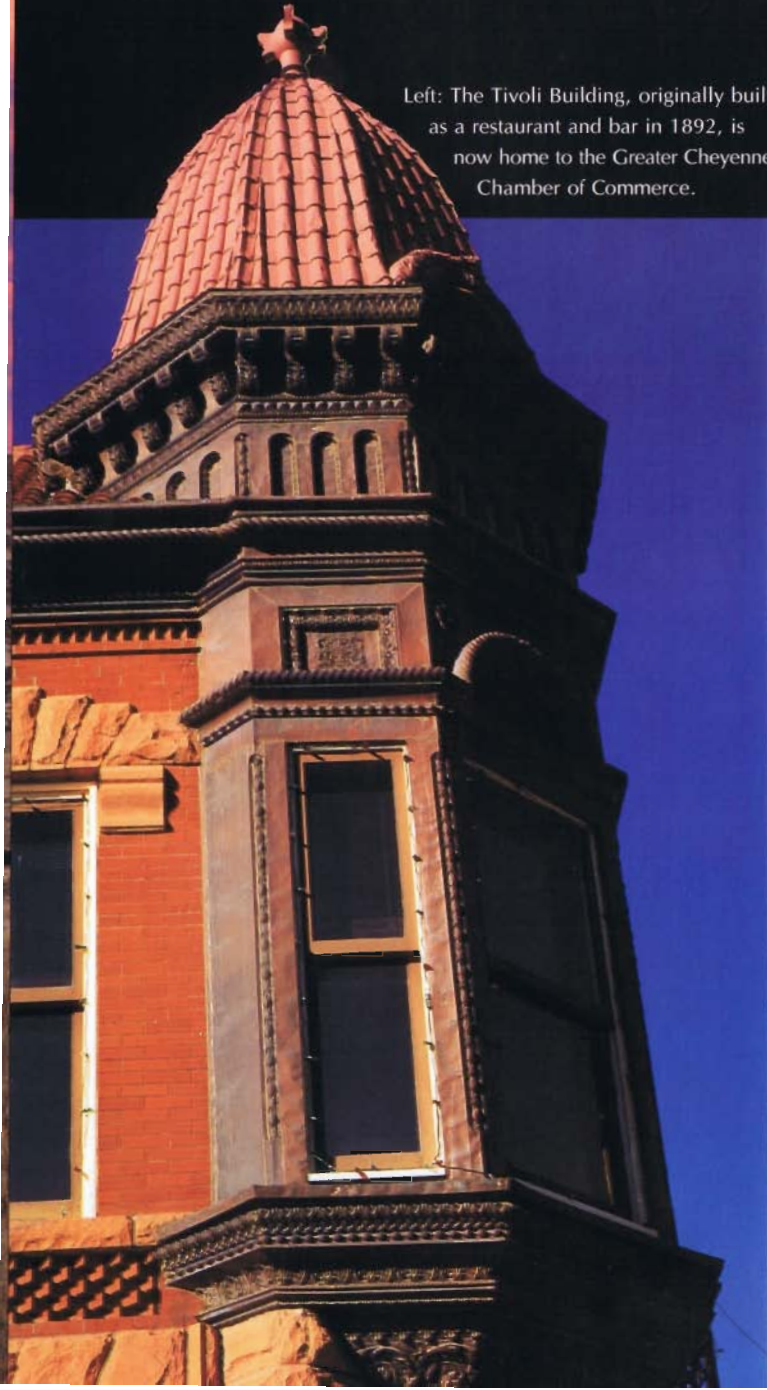
The American flag furls in front of the gilt-domed state capitol building in Cheyenne.



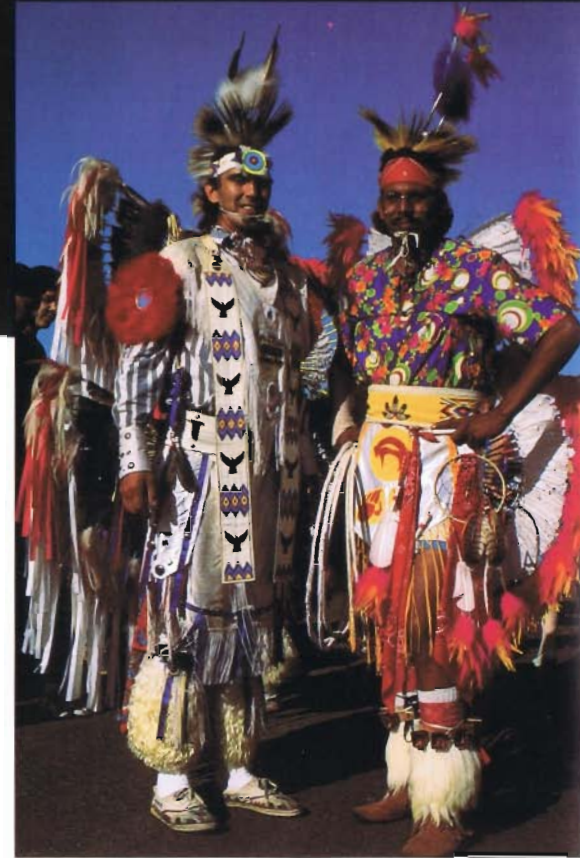
W. R. "Pat" Phillips, Jr.
Chairman and Chief Executive Officer

Cheyenne: *City of Infinite Possibilities*

Left: The Tivoli Building, originally built as a restaurant and bar in 1892, is now home to the Greater Cheyenne Chamber of Commerce.



Right: Native American dances add a historic and colorful touch to the Cheyenne Frontier Days festivities.



W

oming is a land of great open spaces with plenty of elbow room . . . There are sections of the State where it is said you can look farther and see less than any other place in the world.

From the Federal Writers' Project -
*Wyoming: A Guide to its History,
Highways, and People* 1941

■ The statement above can easily be applied to Wyoming's capital city, Cheyenne, sometimes called, "The City of Blue Sky." There is a true sense of spaciousness and of possibilities as endless as the skyline. ■ Cheyenne, located in the southeast corner of Wyoming, is 10 miles north of the Colorado-Wyoming border and 40 miles west of the Nebraska-Wyoming border. ■ What is now a modern city began as an expanse of high plains, ending in the Rocky Mountains 30 miles to the west. The area was initially populated by Arapahoe, Cheyenne and later Sioux Indians. The Cheyenne called themselves beautiful people. The Sioux gave them the name *Sha-hi-e-na*, which meant they spoke a language the Sioux could not understand. ■ The coming of the railroad was the catalyst for the formation of Cheyenne. The city's first settlers, six men and three women, arrived on July 9, 1867. A few months later, the train tracks were still 20 miles east of Cheyenne yet the population tipped 3,000. In November of that same year, the first little flare-stack engine steamed into Cheyenne and the city had swelled to 6,000. ■ Cheyenne soon

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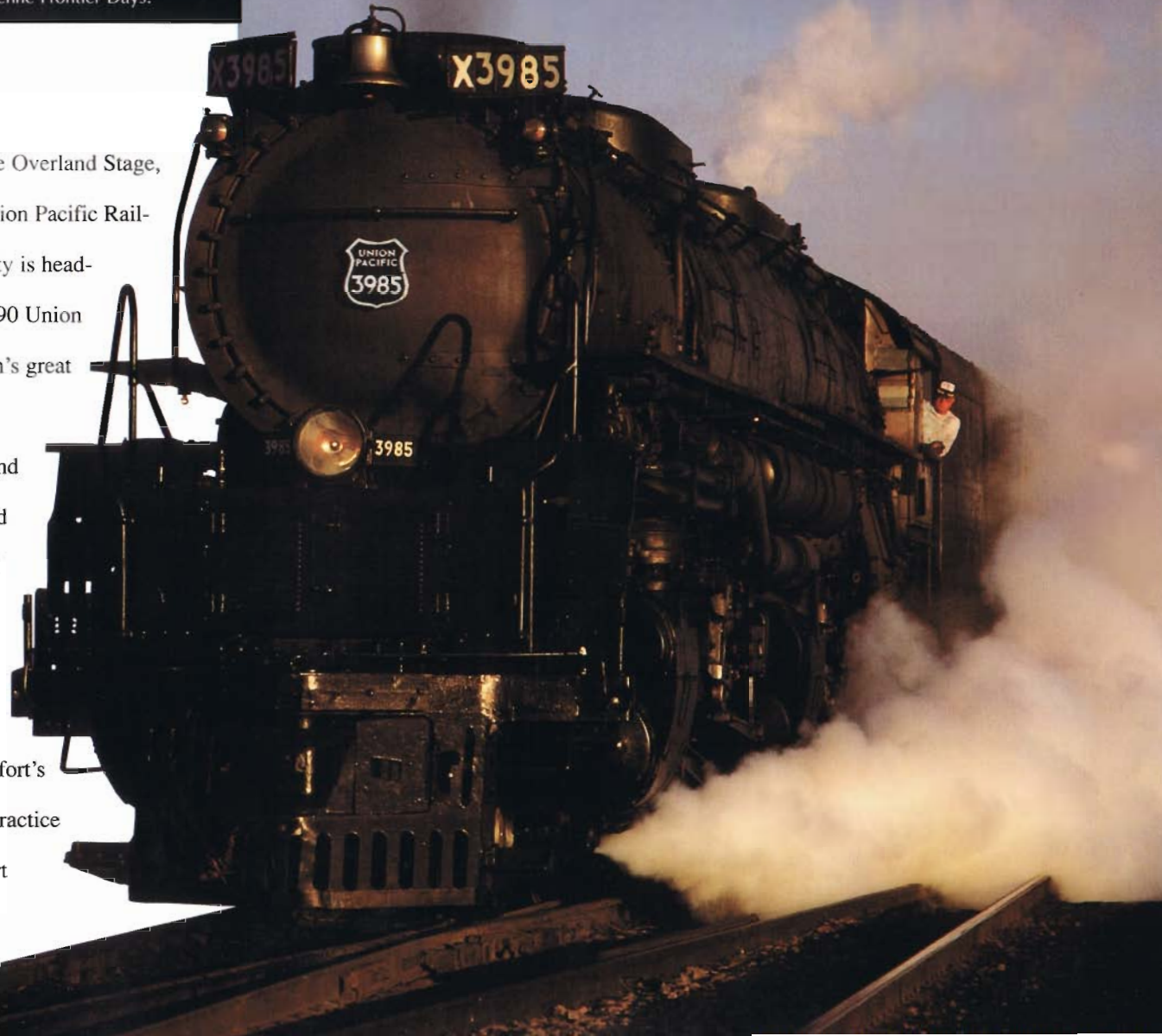


Left: The Cheyenne Botanic Gardens located in Lions Park, in the heart of Cheyenne.

Below left: A cowboy rides a bucking bronco at Cheyenne Frontier Days.

became a communication and transportation center when the Overland Stage, the Pony Express, Western Union, the Mormon Trail and Union Pacific Railroad all ran through the city or close by. ■ Today, the city is headquarters for nine major long-haul trucking lines, with 50 to 90 Union Pacific freights rolling through every day. Two of the nation's great highways, I-25 and I-80, intersect in Cheyenne, linking Albuquerque, Denver and Billings, Chicago, San Francisco and New York. ■ The establishment of Fort D.A. Russell and

the booming livestock industry helped Cheyenne grow into a cultural and trading center of the West. People from Fort Russell joined in the first Frontier Day celebration in 1897. The fort's cavalry troops rode in the parades, a practice that continued until 1927 when the fort became an infantry post. In 1930, the name was changed



Below: One of the 50 to 90 Union Pacific Railroad trains that ride through Cheyenne each day. Cheyenne has long been the focus of Union Pacific's operations east of the Rocky Mountains.

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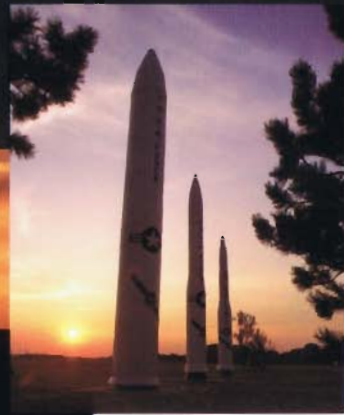
Right: Train tracks photographed at sunset illustrate Cheyenne's sense of spaciousness.

Below left: The cattle industry continues to be a prominent part of Cheyenne's landscape.

Right: F.E. Warren Air Force Base in Cheyenne is the nerve center for the MX (called "Peacekeeper") and Minuteman III Intercontinental Ballistic Missiles.

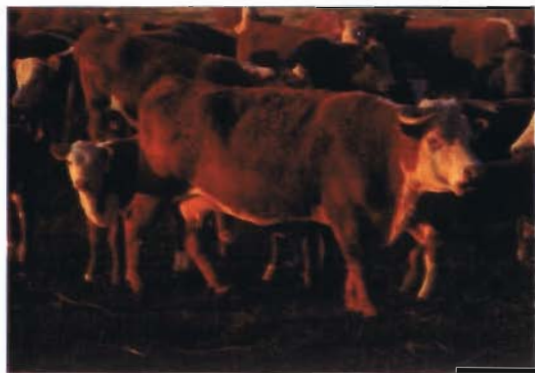
Facing page: The ceiling of the State Capitol which rises 150-feet from the heart of Cheyenne.

Below: Outdoor recreation opportunities abound in Cheyenne. Activities like hiking, fishing, hunting and camping are just minutes away from the city.



to Fort F.E. Warren and in 1947 the base was transferred to the Air Force, as F.E. Warren Air Force Base. Currently, the base is a key link in America's strategic

defense system. ■ With a population of less than 60,000, this capital city retains its small town friendliness while at the same time boasting a wide variety of business and cultural attractions. Cheyenne's economic menu includes the federal and state government, transportation, tourism services and light manufacturing. ■ Many of Cheyenne's attractions and events center on the city's rich western traditions. The biggest event is Cheyenne Frontier Days, "Daddy of



'em all," a world-famous, 10-day western celebration, featuring the world's largest outdoor rodeo each day, nationally popular musical entertainment, parades, Indian dances, a carnival and western art show. The annual event attracts an

estimated 300,000 visitors from throughout the world. The Cheyenne Symphony Orchestra is a company of 110 professional musicians who practice their skills

in the city's Civic Center, built in 1981. ■ Boasting a climate of dazzling sunshine 300 days per year and air that's among the cleanest in the nation, the City of Cheyenne is studded with 1,400 acres of parks where residents swim, play soccer and tennis and fish.

There are also five golf courses. And the wilderness and its wide open spaces are just a stone's throw away in Curt Gowdy State Park, located 26 miles away, with



its abundant fishing, hiking and boating. Rock climbing, snowmobiling and cross-country skiing are also close by for the young and the young-at-heart.

■ A growing city, Cheyenne is the state's largest and is known throughout for its premier public education, recreation and quality of life.



PROGRAM

National Anthem

United States Navy Band

Invocation

CAPT Gary V. Lyons, CHC, USN

Force Chaplain

Commander Submarine Force

U.S. Atlantic Fleet

Welcome & Introduction of Distinguished Guests

William P. Fricks

President

Newport News Shipbuilding

Remarks

W. R. Phillips, Jr.

Chairman and Chief Executive Officer

Newport News Shipbuilding

Remarks

The Honorable Bobby Scott

U.S. House of Representatives

3rd Congressional District, Virginia

Remarks

The Honorable Herbert H. Bateman

U.S. House of Representatives

1st Congressional District, Virginia

Remarks

The Honorable Leo Pando

Mayor, City of Cheyenne

Remarks

The Honorable Jim Geringer

Governor, State of Wyoming



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Remarks

Rear Admiral Scott Sears USN
Commander, Naval Undersea Warfare Center

Remarks

Vice Admiral George W. Emery USN
Commander Submarine Force, U.S. Atlantic Fleet
Commander Submarines Allied Command Atlantic

Remarks & Introduction of Principal Speaker

Dana Mead
Chairman and Chief Executive Officer
Tenneco Inc.

Principal Address

The Honorable Alan Simpson
United States Senator, Wyoming

Introduction of Sponsor & Matron of Honor

Mr. Phillips

Christening of *Cheyenne*

Mrs. Ann Schroll Simpson
Sponsor

Mrs. Laurie Rosen
Matron of Honor

Special Program

Closing Remarks & Presentation of Christening Bottle

Mr. Phillips



The Christening Party

Ann Schroll Simpson
Sponsor



A Wyoming native, Ann Schroll Simpson was born in Greybull and attended schools there and in Laramie. After graduation from the University of Wyoming, she worked as an elementary school teacher in Cheyenne. In 1954, she married Alan K. Simpson, who has served as a U.S. Senator from Wyoming since 1979.

■ Mrs. Simpson has been a real estate salesperson in the Washington, D.C., area for 14 years, and is very active in a variety of community organizations both in Washington and in her home state. She is involved as a member in the Friends of the University of Wyoming Art Museum, currently serving as president of the Museum's Advisory Board. She is a Board member of the Lab School in Washington, D.C., which educates children with learning disabilities. She is also a board member for the Ford Theater. ■ The Simpsons are the parents of three grown children: William, Colin and Susan.

Laurie Birleffi Rosen
Matron of Honor

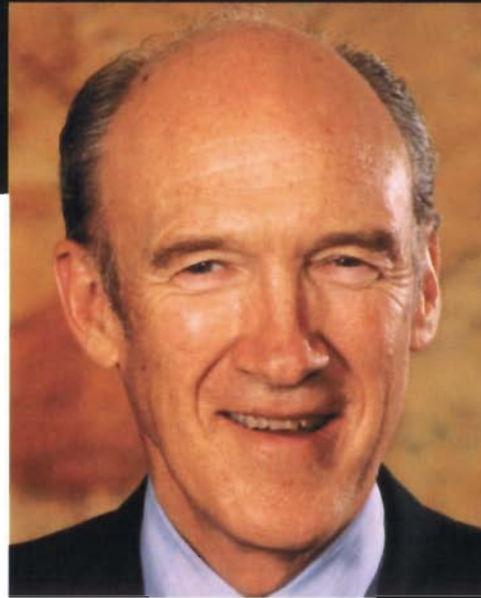


Laurie Rosen was born in Cheyenne, Wyo., and attended the University of Wyoming receiving a degree

in journalism in 1980. ■ In 1983, she moved to Washington, D.C., to work for Senator Alan Simpson and is currently his Senior Executive Assistant. Mrs. Rosen is a member of the Friends of the University of Wyoming Art Museum Advisory Board and a member of the Washington, D.C., National Rehabilitation Hospital Advisory Board. She is very active in the Washington, D.C., Race for the Cure Team Building Committee and in community theater in the Washington area. ■ Laurie Rosen is married to Stephen Rosen, an attorney in Washington. The Rosens reside in Bethesda, Md.

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U.S. Senator Alan Simpson
Principal Speaker



Born in Cody, Wyo., Alan Kooi Simpson received his Bachelor of Science degree in Law from the University of Wyoming. After service in the Army, Simpson

returned to the University, earning his Juris Doctorate degree in 1958. After being admitted to the Wyoming Bar and the United States District Court, he joined his father, Milward L. Simpson, and later Charles G. Kepler in the law firm of Simpson, Kepler and Simpson, and practiced law for the next 18 years. During this time, Simpson was very active in civic, community and state activities.

■ A member of a political family — his father served as both Governor of Wyoming and as a United States Senator — Alan Simpson began his own political career in 1964 when he was elected to the Wyoming State Legislature as a state representative of his native Park County. He served the next 13 years in the Wyoming House of Representatives. ■ In 1978, Simpson was elected to the United States Senate where he is currently serving his third consecutive term. Following his first term, he was elected to the position of the Assistant

Top row, left to right: **W. R. Phillips, Jr.**, Chairman and CEO, Newport News Shipbuilding; **Jim Geringer**, Governor, Wyo.; **Dana Mead**, Chairman and CEO, Tenneco Inc.; **Herbert H. Bateman**, U.S. House of Representatives, 1st Congressional District, Va.; **VADM George W. Emery, USN**, Commander Submarine Force, U.S. Atlantic Fleet, Commander Submarines Allied Command Atlantic. **Second row: William P. Fricks**, President, Newport News Shipbuilding; **Leo Pando**, Mayor, City of Cheyenne; **Bobby Scott**, U.S. House of Representatives, 3rd Congressional District, Va.; **RADM Scott Sears, USN**, Commander, Naval Undersea Warfare Center; **CAPT Gary V. Lyons, CHC, USN**, Commander Submarine Force, U.S. Atlantic Fleet. **Third row: CDR Peter Ozimek, USN**, Prospective Commanding Officer, *USS Cheyenne*.



Republican Leader or “Whip.” He served in that capacity until 1994. ■ Simpson’s U.S. Senate committee assignments include Judiciary, Finance, Special Committee on Aging, and he is Chairman of the Veterans’ Affairs Committee. An active participant in both the Washington, D.C., and Wyoming community, he serves on the Board of Regents for the Smithsonian Institution, the Board of Trustees of the Grand Teton Music Festival in Jackson Hole, Wyo., and is a Lifetime member of the Veterans of Foreign Wars, Post 2673, Cody, Wyo. Simpson holds Honorary Doctor of Laws degrees from California Western School of Law, The Colorado College, Notre Dame University and American University. ■ Simpson is married to the former Ann Schroll and the couple have three adult children.



Evolution of the *Los Angeles*-Class Sub

Left: *USS Jefferson City* is underway after leaving Norfolk Naval Base. Its camouflaged masts appear as ripples in the water when the sub runs at periscope depth.



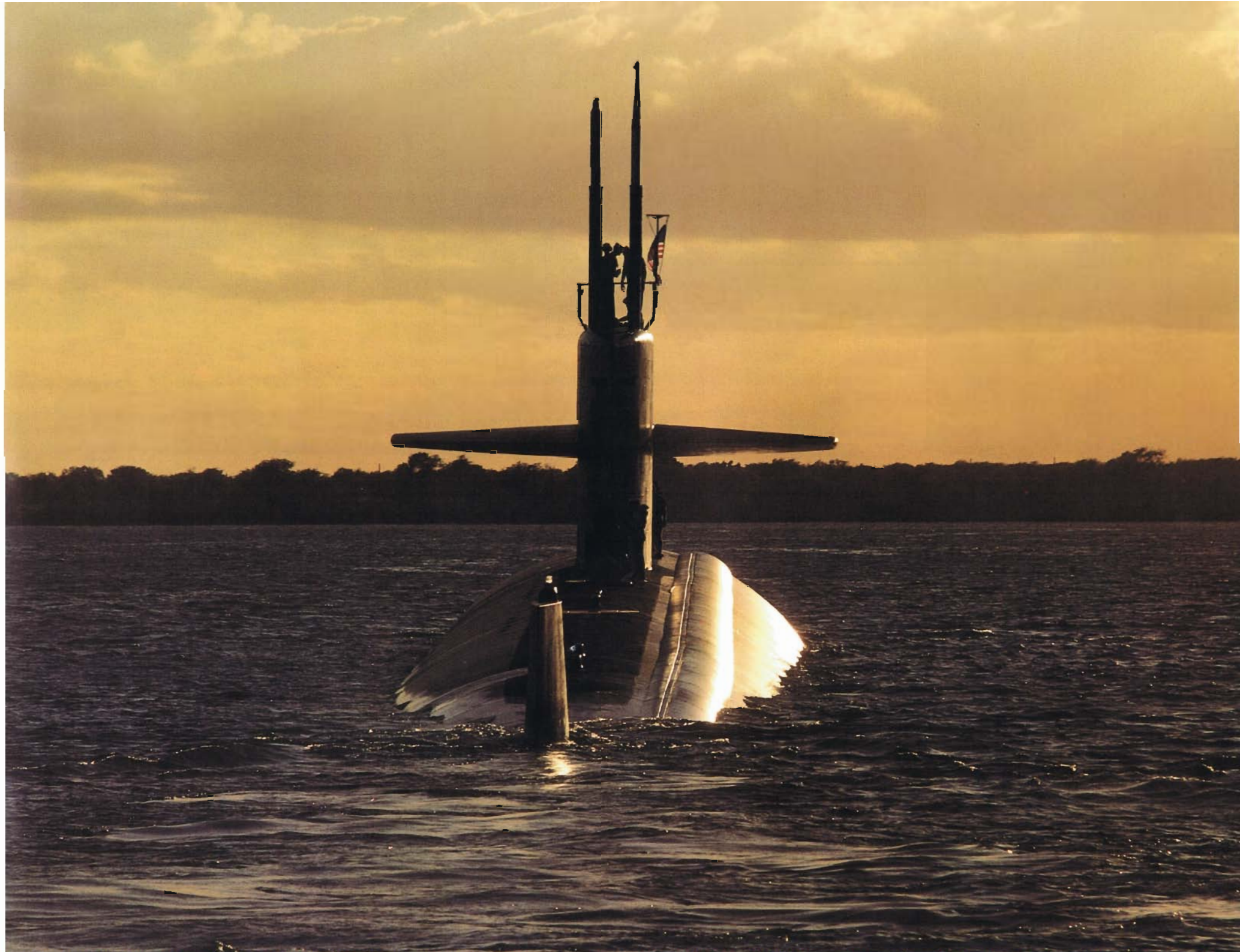
Right: It took more than 12 swings of a champagne bottle to christen the *Los Angeles* on April 6, 1974. Newport News Shipbuilding went on to build 29 in the class.



Facing page: Leaving at sunset, *USS San Francisco* goes out through the Pearl Harbor channel to deployment. *San Francisco* was launched in October 1979 before a crowd of 6,500 spectators.

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HE T-squares, triangles and pencils used to design the *USS Los Angeles* submarine (SSN 688 class) in the early 1970s are no doubt coated with a few layers of dust, with a cobweb or two strung in between. Those fundamental design tools were nudged aside by computers in between the building of *Los Angeles*, first in its class, and the building of *Cheyenne*. In fact, an entire evolution has taken place in the LA-class submarine since *Los Angeles* was christened more than 20 years ago. ■ Don Check, director, Submarine Programs, was at Newport News Shipbuilding when it was chosen as the lead design yard for the *Los Angeles*-class submarine. “In those days, the piping designer would hand-draw his piping drawings, the ventilation designer would hand-draw his ventilation drawings, and so on.” But with the advent of Computer Aided Design and Manufacturing (CADAM), both two and three-dimensional drawings could be created via computer, no pencils or T-squares required. “The other big change in design was the use of computers to do the hundreds of thousands of calculations required,” adds Check. “The slide rules we once used are stuffed in the back of desk drawers now . . . cherished antiques,” Check laughs. ■ And while computers were changing submarine design, construction methods were evolving as well. “The biggest change is modular construction — building submarines on level ground in large sections,” says Check. “Over half of our 688’s were built just like we had built earlier submarines of the *Sturgeon* class, *Lafayette* class, etc. Ships were built a ring at a time on an inclined shipway.” This was status quo for the more than 42 NNS submarines built to this date. With *USS Scranton*, NNS’ 19th LA-class sub, construction was broken down into eight cylindrical modules. Each module was extensively



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Right: *USS Buffalo* surfaces from the depths of the Pacific Ocean off the coast of Hawaii. Launched in May 1982, it was the 10th LA-class submarine to be built by the Shipyard.



Below: Red and blue laser lights dance across the hull of *USS Jefferson City* during a nighttime ceremony in 1990, the third submarine built by modular construction at the Shipyard.

outfitted before being joined to form the ship's hull. The evolution of modular construction continued as NNS mastered the technique. "We will have taken out a third of the man-hours from the first modular ship to *Cheyenne*," says Check. ■ For the Navy, the evolution of the LA-class brought its own challenges. *Cheyenne's* Prospective Commanding Officer Peter Ozimek remembers his first trip on an LA-class submarine, *USS Indianapolis*, more than 10 years ago. "When I look back at my first ship, then compare it to *Cheyenne*, there's not too much that's the same between them. Even though *Cheyenne* is still 688, it's really a very modernized version. The capabilities in fire control systems, the vertical launch missile tubes, plus a much more modern propulsion plant make *Cheyenne* a lot more versatile. And the sonar system is much more sophisticated than on previous 688s." Ozimek has also witnessed the advent of retractable bow planes and the addition of the hardened sail for breaking through ice during Arctic operations. The challenge is in keeping up with this evolving technology. "We spend most of our hours training the crew," says Ozimek. "When we go to sea for the first time, we need to operate the ship as though we have been going to sea on it for

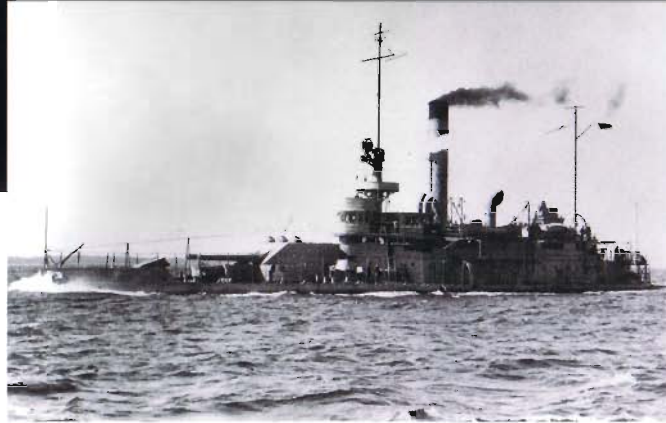
years." ■ Though *Cheyenne* marks the last submarine in the LA-class, it in no way signals the

end of the evolution of the submarine. In fact, the propulsion plant in the *Cheyenne* is a prototype of the one in *Seawolf*, the generation of submarine that is following the LA-class. Design of *Seawolf* has also taken the next step forward with a specialized 3-D computer software called VIVID[®], developed by NNS. Not just drawings, but three-dimensional ships' systems can be created in the same computer database, showing where and how those systems fit into the overall ship's plan. ■ From T-squares to modular construction and 3-D computer design, the *Los Angeles*-class submarine is finally coming to an end with *Cheyenne*. But the evolution that has taken place over the last 20 years has and will continue to define the submarines of the future and beyond. ■ In fact, where *Seawolf* design work is taking place at the Shipyard, not a single drafting table exists. Not a single one.



Previous ships named *Cheyenne*

Below: The monitor, *Cheyenne*.



THE Navy's attack submarine

Cheyenne is the third ship to bear the name of

Wyoming's capital city. A converted tugboat was the first *Cheyenne*, launched from Charleston, S.C., in 1885.

The tug served in the Auxiliary Naval Force in blockade duty off the Florida coast. Decommissioned in 1898

in Port Royal, S. C., it was later sold in 1900. ■ The monitor ship *Cheyenne*, built by Union Iron Works

in San Francisco, Calif., was actually launched as *Wyoming* in September 1900. As *Wyoming*, the monitor

spent much time in Panamanian waters during a civil war in Columbia where American presence eventually

led to independence for the Panamanians. ■ In 1908 at Mare Island, *Wyoming* was the first ship in the

U.S. Navy to undergo conversion to oil as a fuel. It was renamed *Cheyenne* during testing of its conversion,

clearing the name *Wyoming* for a battleship. The monitor was then assigned to the Washington State Naval

Militia and in 1913 underwent conversion to a submarine tender. ■ During World War I, *Cheyenne*

assisted in establishing a submarine base and training camp at San Pedro, Calif., later joining the Atlantic Fleet

as flagship and tender. In 1920, *Cheyenne* was assigned to training duty with Naval Reserve Force personnel

in Baltimore, occasionally visiting Hampton Roads during its cruises. Decommissioned in Philadelphia in

1926, *Cheyenne* was sold for scrap in 1939.

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Facts about *Cheyenne*

■ *Cheyenne* (SSN 773) is the namesake of Cheyenne, the capital city of Wyoming.

■ The submarine is 360 feet long, 33 feet in diameter, and when it becomes fully operational upon its commissioning in 1996, *Cheyenne* will have a crew of 14 officers and 126 enlisted personnel assigned to it.


■ *Cheyenne* will be fully capable of performing any of the missions assigned to the submarine force today, including anti-submarine warfare, intelligence gathering, insertion of special forces, strike missions, mining and search and rescue.



■ The Navy's AN/BSY-1 combat control and sonar system, plus retractable bow planes and a hardened sail for breaking through ice during Arctic operations, will be installed in *Cheyenne*.

■ The submarine's weaponry will include MK-48 and MK-48 ADCAP torpedoes, Harpoon and Tomahawk missiles, and submarine-launched mobile mines.

■ *Cheyenne* is Newport News Shipbuilding's 53rd nuclear-powered submarine, and its 29th in the Los Angeles class of submarines.

Newport News Shipbuilding 

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4101 Washington Avenue
Newport News, Virginia 23607



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