The Daybook

Volume 6 Issue 4 Summer 2000

In This Issue…

Operations Manager for *Wisconsin* Hired, Page 3

Wisconsin Exhibit and Interpretation Plans Finalized, Page 4

Super-Battleship: Plans and Construction of USS *Wisconsin*, page 6

NAVAL MUSEUM
Local History. World Events.

About The Daybook

The Daybook is an authorized publication of the Hampton Roads Naval Museum (HRNM). Its contents do not necessarily reflect the official view of the U.S. Government, the Department of Defense, the U.S. Navy or the U.S. Marine Corps and do not imply endorsement thereof. Book reviews are solely the opinion of the reviewer.

The HRNM is operated and funded by Commander, Navy Region, Mid-Atlantic. The museum is dedicated to the study of 225 years of naval history in the Hampton Roads region. It is also responsible for the historic interpretation of the battleship *Wisconsin* which will be moored next to the museum in December 2000.

The museum is open daily. Call for information on *Wisconsin*'s planned hours of operations. Admission to the museum is free. *The Daybook*'s purpose is to educate and inform readers on historical topics and museum related events. It is written by the staff and volunteers of the museum.

Questions or comments can be directed to the Hampton Roads Naval Museum editor. *The Daybook* can be reached at (757) 322-2993, by fax at (757) 445-1867, e-mail at gbcalhoun@nsn.cmar.navy.mil, or write *The Daybook*, Hampton Roads Naval Museum, One Waterside Drive, Suite 248, Norfolk, VA 23510-1607. The museum can be found on the World Wide Web at http://www.hrnm.navy.mil.

The Daybook is published quarterly with a circulation of 1,500. Contact the editor for a free subscription.

Rear Adm. Christopher W. Cole
Commander, Navy Region, Mid-Atlantic

HRNM Staff

Director
Becky Poulliot
Curator
Joe Judge
Education Specialist
Bob Matteson
Exhibits Specialist
Marta Nelson
Museum Tech./Librarian
Ofelia Elbo
***Editor of* The Daybook**
Gordon Calhoun
Architectural Historian
Michael Taylor
Battleship* Wisconsin *Operations Manager
Capt. Mary Mosier, USN (Ret.)
Special Events
Helene Tisdale
HRNM LPO
AO1 (AW/NAC) Sonny Hall
Director, HRNHF
Maj.Gen.Dennis Murphy, USMC (Ret.)

Features

The Director's Column.....2

Future Deployments

Book Reviews.....10

Millions for Defense: The Subscription Ships of 1798 by Frederick C. Leiner. Review by Joseph Mosier

When Computers Went To Sea: The Digitization of the U.S. Navy by David L. Boslaugh. Reviewed by J. Huntington Lewis

The Museum Sage.....12

Local Ships, One World Event-Hampton Roads' ships in the Korean War

Cover Photographs: On December 8, 1943, the *Philadelphia Inquirer* hailed the battleship *Wisconsin* (BB-64) as the "biggest and mightiest fighting vessel ever constructed." Her design and construction is the accumulation of more than 60 years of American and European battleship experience. She included the latest in armor, fire control, engineering, and weapons technology that truly made her the most powerful warship of her age. This article is the first of many to be published about the battleship, her crew, and her historic operations.

Future Deployments

The Director's Column

by Becky Poulliot

In less than three months, battleship *Wisconsin* will relocate to her new home in downtown Norfolk, adjacent to our museum. The December 7 arrival marks the anniversary of her 1943 launching. For those of you not aware, the museum is responsible for the day-to-day operations and the historic interpretation of this huge artifact. A special welcome aboard to our newly hired battleship operations manager, **Capt. Mary Mosier** (Ret.). She is the museum's point of contact for anything and everything related to the ship. Mary brings more than 26 years of Navy experience and managerial skills to this exciting project. See page 3 for more information on Mary. Better yet, come by and meet her.

Museum staff members are working closely with the National Maritime Center personnel to ensure an exciting experience for visitors when *Wisconsin* opens to the public April 2001. From December 2000 to April 2001, museum staff and volunteers will be preparing tours and educational programs for the battleship. We certainly need additional volunteers. Training courses will run in November 2000 and February 2001. Training will be held at the museum and each course lasts two weeks. Our goal is to the man the ship for tours beginning April 16, 2001. If you want to find out more about becoming a museum volunteer, call our educator **Bob Matteson** at 322-2986.

April 2001 also marks the opening of another permanent museum exhibit, this one on USS *Wisconsin*. Its location is adjacent to our museum entry (where Virtual Adventures stood.) Interestingly, the display forms the actual walkway to the battleship, so every visitor who boards will be treated to a chronological look at USS *Wisconsin*'s history and battle record. This exhibit comes courtesy of our support organization, the Hampton Roads Naval Historical Foundation, whose board has pledged to raise $150,000.

During renovation, the museum will close to the public from January 2 to March 31. We will continue to be available for scheduled group tours, especially schools. Check our web page at **http://www.hrnm.navy.mil/wisconsin**.

In our continuing effort to get our name out to the public, the museum has advertisements in both concourse areas of the Norfolk International Airport. Thanks to museum docent **Jack Robertson** and the generous financial support of Dollar Tree Stores, Inc., these wall-mounted displays will be seen by hundreds of thousands of travelers and visitors to the area.

The Museum's public advertisement at the Norfolk International Airport (Photo by Gordon Calhoun)

Becky

100 Years of Silence:

An Exhibit Commemorating the Submarine Force

Now on display on the 2nd deck outside the museum. See a small sample of the past, present, and the future of the U.S. Navy's Submarine Force. Visit http://www.sublant.navy.mil for information on the Submarine Force Centennial Celebration

Hampton Roads Naval Museum
Local History. World Events.

Museum Hires Mary Mosier as Operations Manager for *Wisconsin*

The Hampton Roads Naval Museum is pleased to announce that it has hired Capt. Mary Mosier (Ret.) to be its operations manger for USS *Wisconsin*. The operations manager is the museum's point person for everything related to the battleship. This includes serving as the liaison officer between the museum and Naval Sea Systems command (*Wisconsin*'s current custodian), as the point-of-contact between the museum and Nauticus/City of Norfolk, and managing the day-to-day operations of the ship.

Mary is no stranger to the Navy. She recently retired after 26 years of Naval service. While in the Navy, Mary spent most of her time in the anti-submarine warfare community. Specifically, she worked with oceanographic and undersea surveillance systems. She has been the current operations officer at both Oceanographic Systems Atlantic and Pacific, executive officer of the Naval Ocean Processing Facility at Ford Island, HI, commanding officer of Naval Facility, Whidbey Island, WA, and deputy commander and chief staff officer of Commander Undersea Surveillance, Dam Neck, VA.

After her retirement, she taught math and science at the middle school level and served as a tour guide for Naval Station, Norfolk and the local area.

Mary is married to Joe Mosier who is

this publication's principal writer and a docent at the museum. The museum is extremely fortunate to have Mary as part of the museum staff. If you have any questions about the future plans or the day-to-day goings on with the battleship, call her at 322-2985.

We're Looking For You!

The Hampton Roads Naval Museum is Currently Signing Up Volunteers to Help with the Battleship USS *Wisconsin* and the Museum

Classes Start October 26

Call Bob Matteson at 757-322-2986 or e-mail him at rdmatteson@nsn.cmar.navy.mil for more information and to sign up

Museum Announces New Exhibits for *Wisconsin*, Will Close for Three Months Starting in January

In preparation for the arrival of the battleship *Wisconsin*, the Hampton Roads Naval Museum in partnership with Nauticus: the National Maritime Center is planning a new permanent exhibit on the battleship. This new exhibit will focus on the extraordinary history of the warship beginning with her design and construction and then lead into her World War II operations, her reactivation during Korea, and her most recent service.

Highlights of the exhibit will be artifacts on loan from the Naval Historical Center and from veterans of the battleship. Photographs will complete the story.

The exhibit will be installed in a new walkway to the battleship. The entrance to this walkway will be located adjacent to our gallery on the site of the now removed Virtual Adventures interactive exhibit. Starting in January, the museum will close for three months. Major space changes will be made to the museum, the office area, and the library.

The museum's privately-run, non-profit support organization, the Hampton Roads Naval Historical Foundation, has pledged $150,000 over a three to five year period to help pay for the exhibit.

In addition to the exhibit, the museum's main responsibility will be the battleship itself. Tours of the ship will be available starting in April 2001 and will run through the Spring and Summer seasons. The tour itself will be about 45-minute long and will cover the main deck, as *Wisconsin* still could theoretically be called back to active duty. See the map and description of the tour on page 5. There will be no admission charge for the historic exhibit and tour of the ship.

Contact the museum curator Joe Judge at 322-2984 or the museum's exhibit specialist, Marta Nelson, at 322-2991 for more information on the planned changes.

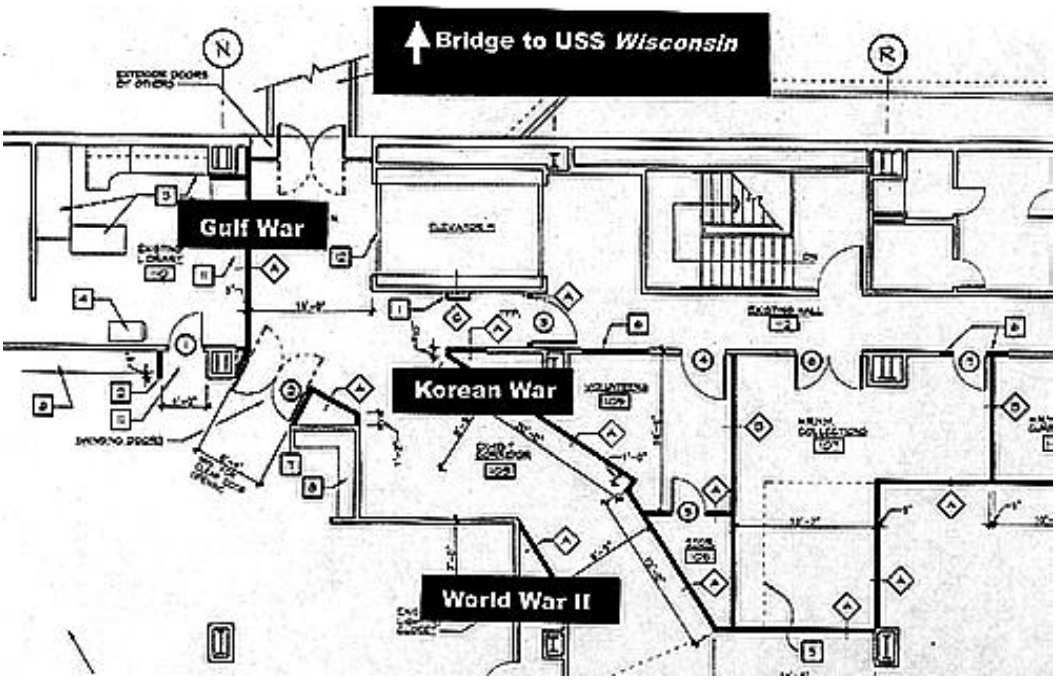
Nauticus' Wisconsin *Exhibits*

Nauticus is also planning a major exhibit renovation of their own in preparation for the battleship's arrival. On the second deck, next to the museum's ship history exhibit, Nauticus is planning to build an exhibit called "City at Sea." This exhibit will focus on and interpret the life of a battleship sailor and his daily routine. Visitors will walk through an exhibit treatment of *Wisconsin*'s berthing areas, galley, the brig, communications room, ship services, and operations rooms.

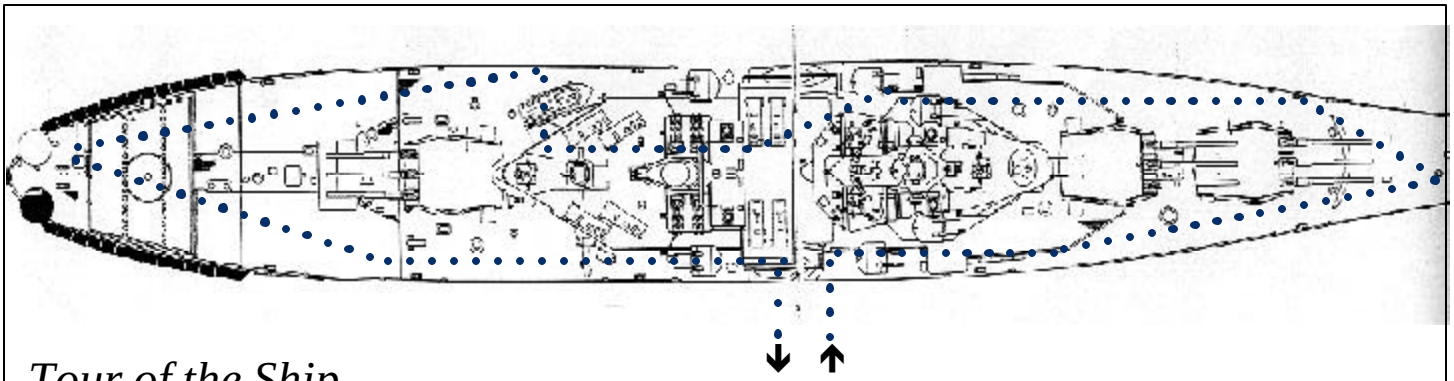
On the third deck, two major exhibits are planned. The first is the "Battleship Theatre" where visitors will learn about battleship design. Visitors will receive a hi-tech, educational presentation of *Wisconsin*'s design and construction in a similar fashion

Exhibits continued on page 5

Planned Changes to Hampton Roads Naval Museum Space



The historic exhibit for USS Wisconsin will begin on the former location of Nauticus' Virtual Adventures exhibit. The exhibit will highlight the three major wars that the battleship has been involved. In addition to the exhibits, a new collections room will be built and a room for museum and battleship volunteers.



Tour of the Ship

Current plans call for a 45 minute guided tour of the battleship. Admission to the ship will be free. The tour will only be topside as the battleship is still in reserve status. The tour will begin (see map located above) from a second floor corridor and proceed forward, pass turrets #1 and 2 to the bow of the ship. It will then proceed aft (on the port side), up to the bridge level (O3 level). Visitors will then be directed to the Tomahawk missile launchers and then to turret #3. The tour will conclude with a walk to the stern of the vessel and then to the exit. There will be a limited number of docents for free, group tours and Nauticus plans to rent portable, audio tours to visitors.

Exhibits continued from page 4

to the current Aegis Theater.

The other third deck exhibit will let the visitor get an inside view of the ship through a series of interactive displays. Using a series of viewers, the visitor will be able to find out more about different sections of the ship and even get a look at spaces not open to the public. For more information on Nauticus' exhibits, contact their curator for the *Wisconsin* project, David Kohnen, at 664-1000.

Nauticus' Planned Wisconsin *Exhibits*

Nauticus is planning three major exhibits for Wisconsin. *On the 2nd deck, there will be exhibit show the life of a battleship sailor (artist's conception shown above). On the 3rd deck, a viewing gallery of the ship will offer a series of interactive viewers (artist's conception at left). Also on the 3rd floor, there will be a "battleship theater" where visitors will build their own battleship. (Illustrations courtesy of Nauticus)*

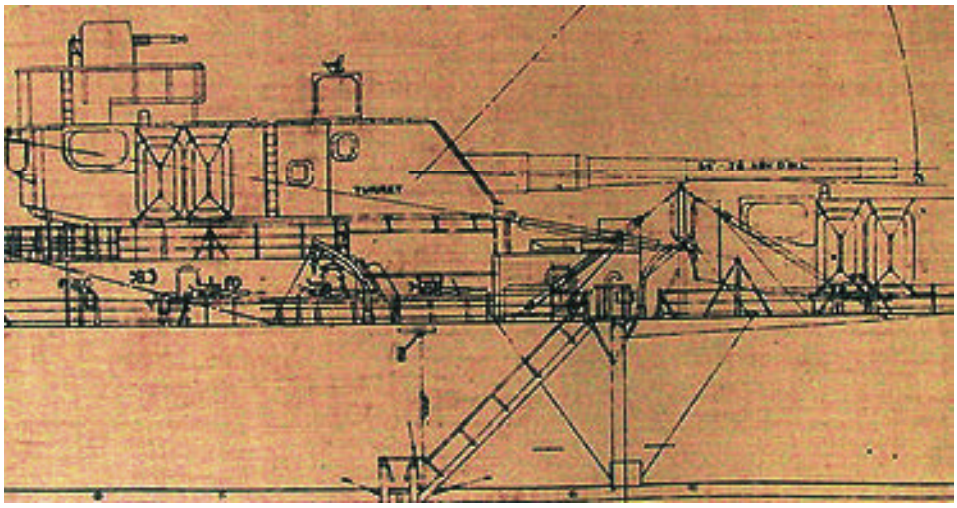
Building a Super-Battleship

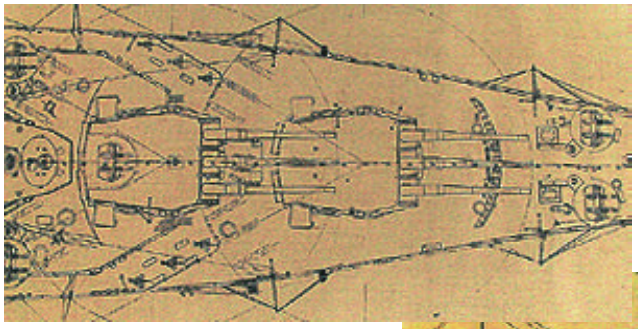
Design and Construction of USS *Wisconsin*

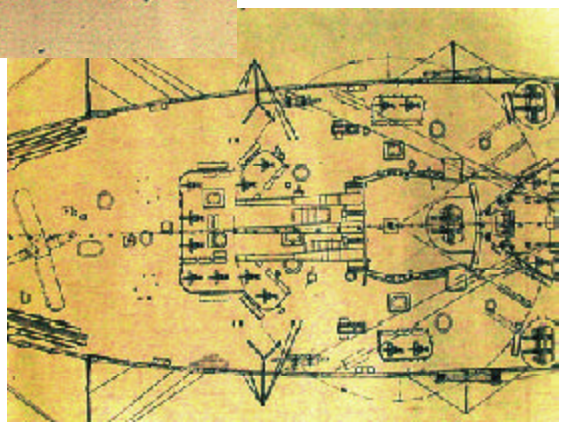
When visitors look at *Wisconsin*, they will see much more than what the *Philadelphia Inquirer* called "the most powerful warship ever assembled." Consider the fact that workers used a torch the size of one's finger to weld the armor plates together, and then these same workers took a month to install each of the 2,100-ton turrets and place them within a 1/4-inch of standards. The Navy designed *Wisconsin* and her sister warships to be the perfect balance of firepower, speed, and protection. What the Navy got in *Wisconsin* was a work of art that in many ways belongs in a major museum. She is a tribute to American industrial skill, ingenuity, creativity, and the people who assembled her.

Wisconsin's design was conceived in an era of crisis. As the United States crept ever more closely to officially entering the Second World War, its Navy faced some major problems with its ship inventory. Much of war planning is based on "what if?" scenarios. These are situations where there is a small chance that the enemy could do something that will turn the tide of a future war against your forces. Specifically, friend and foe alike had outclassed the Navy's battleship inventory and by the late 1930's, the Navy realized that it faced many nightmarish "what if" situations. It was in this environment that designers and policy makers within the Navy Department conceived the *Iowa*-class battleships, of which USS *Wisconsin* (BB-64) was the third such vessel.

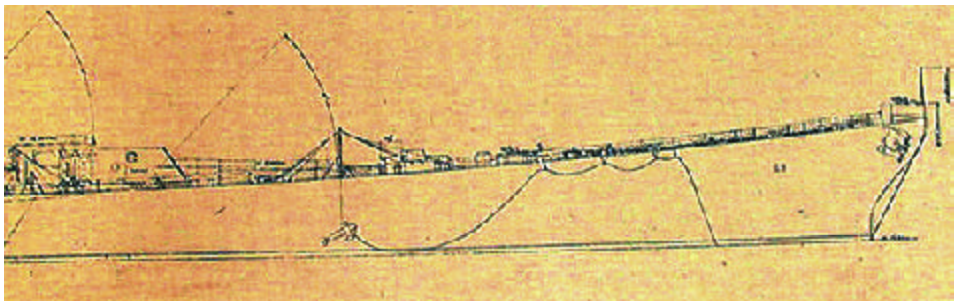
Even though many people recognized that battleships were becoming obsolete and that aircraft carriers were more important, America's disadvantage in battleship design was not an easy concept to ignore. U.S. Navy intelligence had reached the unfortunate conclusion that Japan and Germany might very well dump everything agreed to in previous arms limitation treaties such as the 1919 Treaty of Versailles, the 1922 Washington Naval Treaty, the London Naval Treaty of 1936. These treaties limited the size, armanent, and the aggregate tonnage of the world's ships.



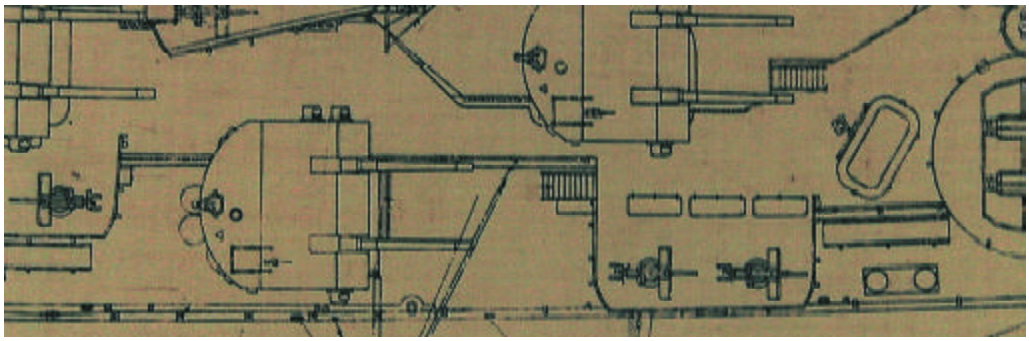




Shown here are the lines for the perfect warship. Previous battleships had to give up performance in either speed, armor, or firepower in order to achieve better results in the other two. The designers of Wisconsin *attempted to produce a design that made no such sacrifices. (Photos of drawings by Gordon Calhoun)*



Wisconsin ***continued on page 7***



Designers gave the Iowa-class 20 *Mk12 five-inch "dual purpose" guns installed in 10 gun mounts for secondary armament. The very real threat of air attacks forced designers to place several smaller AA guns ranging from dual mounted 40mm to .50 caliber machine guns. The additional armament forced the Navy to add over 1900 more crew members. (Photo of battleship drawing by Gordon Calhoun)*

Shown at left are the minds behind Wisconsin *'s design. On the far left is the Secretary of the Navy's Battleship Design Advisory Board, which was made up of six of the nation's most prominent ship architects. To the immediate left is Rear Adm. Allan J. Chantry, jr.,* Wisconsin *'s lead designer. (Battleship Advisory Board photo, National Archives; Chantry, Naval Historical Center photo of a painting by Ethel H. Warwick)*

Wisconsin ***continued from page 6***

The United States faced two specific problems: the German battleship *Bismarck* and the Japanese titan *Yamato*. Additionally, the two Axis nations were very busy building a series of new heavy cruisers and "pocket" battleships to back up the larger capital ships. Japan had just finished a class of cruisers, called the *Kongo*-class, capable of 30 knots. These cruisers would be able to outrun anything in the American fleet. Despite assurances from Hitler to the West, the German navy had launched several new ships that ignored various international agreements.

The United States' latest designs, however, respected the limitations established in the various arms limitation treaties. The United States was not about to be the first one to pull out of the arms conventions. As a result, the only upgrade in design for the *North Carolina*s and *South Dakota*s was an increase in armament from 14-inch guns to Mk6 16-inch/45 caliber rifled guns.

In 1938, the Japanese government publicly renounced the latest round of naval limitation treaties. With this announcement, the United States responded by beginning work on a new, much larger 45,000-ton battleship design.

The responsibility for coming out with a new design fell to the Navy's Battleship Design Advisory Board (BDAB). Formed in 1936 through an executive order, this group was made up of America's finest maritime architects. For this specific project, Capt. Allan Chantry, manager of the Philadelphia Navy Yard's Industrial Development, was the lead designer. Chantry was one an intellectually brilliant officer. He graduated first in his class at the Naval Academy in 1906 and received his master's degree at the Massachusetts Institute of Technology in Cambridge, MA. Before he began work on *Wisconsin*, Chantry oversaw the construction of the battleships *Washington* (BB-56), *New Jersey* (BB-62), and several aircraft carriers.

With the decision made to design and build a new class of battleships, the numbers game began. The design of any battleship had to consider three basic factors: speed, firepower, and armor.

Conventional wisdom said that a designer had to sacrifice performance in one category in order to gain performance in the other two. For example, the designers of USS *North Carolina* (BB-54) originally called for the battleship to have 12 14-inch guns. However, they decided to upgrade the firepower of the ship by equipping her with nine 16-inch guns, still wanted the 35,000-ton vessel (the maximum displacement under the Washington Naval Treaty) to be able to steam at 28 knots. As a result, *North Carolina*'s armor was relatively light and was only able to stop a 14-inch shell.

Some improvements were made with the *South Dakota*-class but only with some ingenious and creative engineering as both of these battleships were also restricted to 35,000-tons. These two warships had to be the same displacement as *North Carolina*, but with increased armor protection and the same speed. The result was a shorter, slightly fatter hull.

Bismarck and *Yamato*, however, still equaled or outclassed all current American designs in one or more factors. Additionally, the fast heavy cruisers, such as *Kongo* and the German *Scharnhorst*, posed a "what if" scenario where enemy warships played havoc with American shipping. Once Navy intelligence confirmed this, BDAB was faced with the task of building a battleship class capable of chasing down and defeating anything it might meet. The board set out to build a class of battleship that equalled or exceeded all enemy designs in every category. While BDAB could now build warships without treaty restrictions, American designers still had a special restriction to work through. Any American warship had to be able to fit

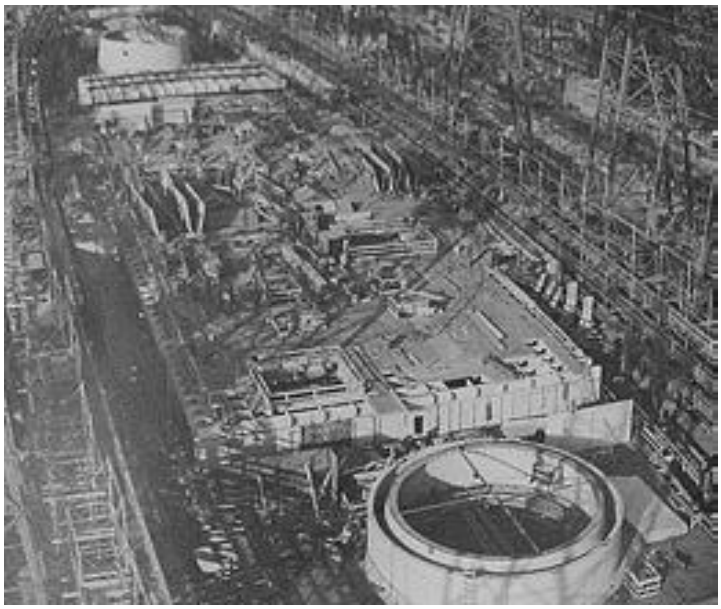
Wisconsin ***continued on page 8***

Wisconsin ***continued on page 7***

through the Panama Canal so it would not have to make marathon runs between the Atlantic and the Pacific like USS *Oregon* (BB-3) had to do in 1898. As a result, the new class of battleship could not exceed 110 feet at the beam.

BDAB set the following parameters for the next class of ships. Each ship was to cost about $125 million to build, be constructed and commissioned in about three and half years, and displace about 52,000-tons (fully loaded). Originally, Congress would only agree to build two ships out of the *Iowa*-design. The new design gave Congress a slight sticker shock, as the vessels were 60% more expensive than previous designs. However, the crisis brought on by the fall of France led Roosevelt to demand a two ocean fleet. Congress agreed to Roosevelt's demand and authorized four more ships. It was out of this emergency spending that *Wisconsin* came to life. Congress even considered authorizing an even larger class of warship because of the grave crisis.

With the fixed factors in mind, the first consideration was the main armament. BDAB had four options. Option number one was to match the *Yamato* (the biggest battleship facing the Americans) gun for gun with the Mk1 18-inch/45 caliber rifle. This monster gun, the largest ever assembled in America, could fire a two-ton shell several miles that could penetrate 16 inches of armor. There were several problems with using this weapon (option number one called for the use of nine Mk1s.) It would slow the ships down to a snail crawl of 22 knots, add six months to construction time, require that some of the armor be shed on the turrets, and most importantly, the beam of the ship would have to be increased to 131 feet in order to accommodate the sheer size of the guns.



Wisconsin under construction, 1942 at the Philadelphia Navy Yard's slip number 8 . Nickel-steel armor plating for the ship came from Bethlehem Steel's main mill in Bethehem, PA and from Luken Steel's Coatsville mill just outside Phildelphia. A special forge was bult to manufacture the turret plate at the CharlestonOrdnance Works in Charleston, WVA. (U.S. Navy photo)

Workers at the Philadelphia Navy Yard prepare to install one of Wisconsin*'s nine Mk7 16-inch/50-caliber rifles. Manufactured at the Naval Gun Factory at the Washington Navy Yard, the installation of these guns was among the most complicated procedures performed. With the skill of a surgeon, each gun had to be installed within a 1/4-inch of standards. Each gun, not including the gun breech, weighed around 120 tons (considered to be a "lightweight" design) and could fire a one ton shell 24 miles. (U.S. Navy Photo)*

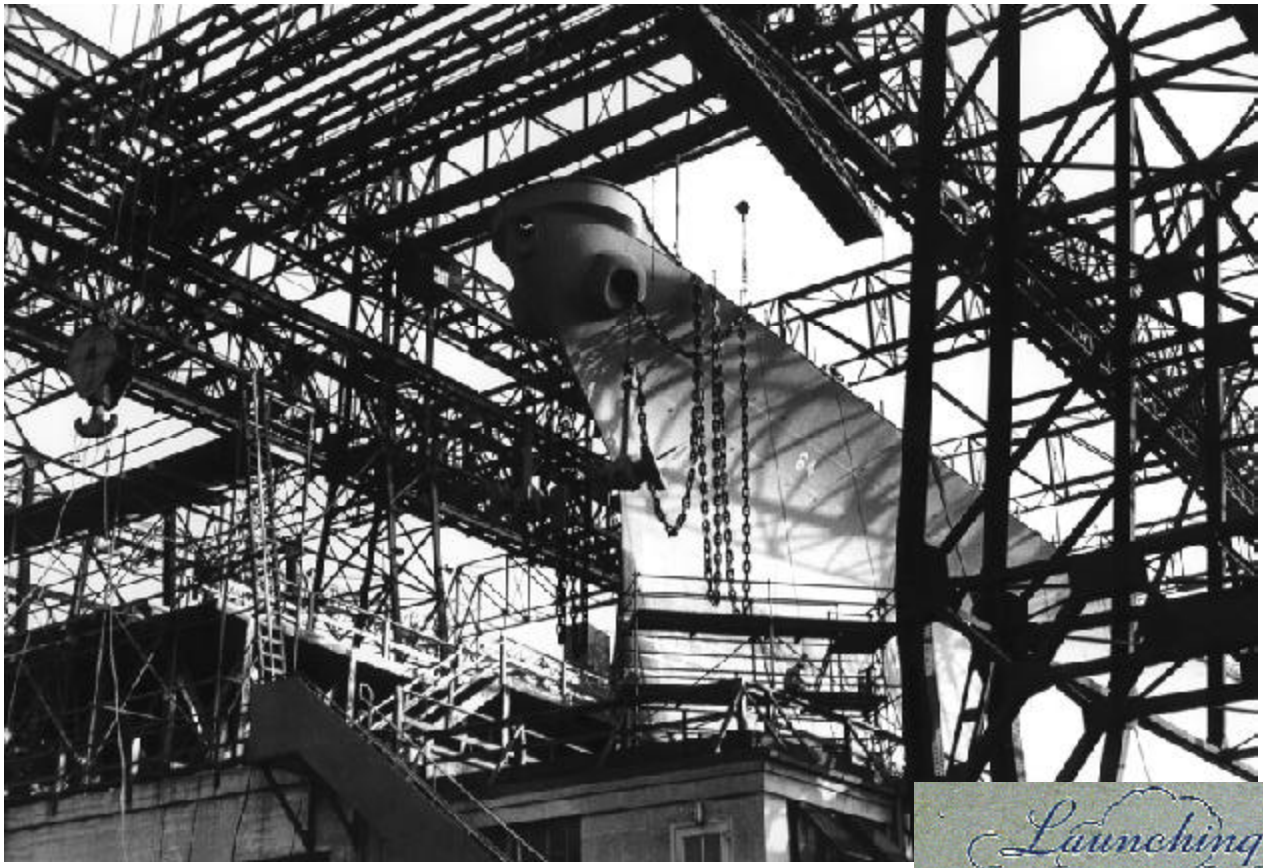
Option number two was to have only dual mounted 18-inch guns. While it might have saved some space and displacement, BDAB quickly dismissed this option. It would have required additional design and test work, being that there was no dual mount available.

Options number three and four both considered the use of the smaller 16-inch rifles. There were two types available: the Mk6 16-inch/45 caliber rifle that was used on both *North Carolina* and *South Dakota* and the newer Mk7 16-inch/50 caliber rifle. While the Mk6 would make the designer's job easier because it was small and light, the Mk6 would not solve the firepower problem. Option 4, the Mk7 16-inch/50 caliber rifle, was a good compromise of firepower, size, weight, and cost.

The Mk7 had several other advantages over the other options. During a rapid-fire situation, the Mk7 could fire twice as fast as the 18-inch guns and would give the new class a further reach than the older Mk6 16-inch rifles. Additionally, the turrets for the Mk7 could be given sufficient armor to withstand an incoming 16-inch shell, unlike the Mk1 18-inch guns. Fully equipped, each of *Wisconsin*'s triple mounted turrets weighed over 2,100 tons. At 6,300 tons, these three turrets alone made up about 12% of the ship's displacement. The Naval Gun Factory at the Washington Navy Yard designed and manufactured the guns located in Southeast Washington, D.C (Building 76 and present site of the Navy Museum.)

World War II battleships had a concern that their older Spanish-American War and World War I counterparts did not have to worry about: air attacks. Despite the modern battleship's classification as "dreadnought" battleships (which meant

Wisconsin ***continued on page 9***



The hull of the Navy's newest battleship just days before her launch. Laid down on January 25, 1941, workers at the Philadelphia Navy Yard finished building Battleship Number Sixty-Four in just 34 months. The very emotional day of December 7 was chosen as her launch date. (Above photo, National Archives; Launch program provided by Tom Hise)

Wisconsin ***continued from page 8***

among other things that the vessel carried an all big gun arrangement), designers equipped their warships with several smaller caliber guns. From the start, *Wisconsin* and her sisters were to have 20 5-inch/38 caliber dual purpose guns mounted in 10 turrets. These guns could put up 22 shells per minute per gun in the anti-aircraft role. The Naval Gun Factory designed the smaller guns, but contracted their manufacture to other factories.

The second basic factor, after firepower, to be considered was *Wisconsin*'s armor. The armor scheme was a copy of the armor used on *North Carolina* and *South Dakota*, only thicker. This armor could, in theory, stop a 16-inch shell coming in at a 45-degree angle. There was some idle talk about making *Wisconsin*'s armor tough enough to stop an 18-inch shell, but BDAB dropped the idea when it realized how much more weight and redesign work it would take.

Nickel-steel was used to manufacture the armor. This type of steel is a kind of stainless steel which has the added benefits that it does not corrode quickly, but bends easily. Nickel-steel was not a new material. From the start, armored warships like USS *Indiana* (BB-1) used this type of steel.

One 17 1/2 inch belt of the nickel-steel ran from the deck to the below water line on both sides of the ship and covered the middle 2/3 of the ship. Eighteen inch plates were used in the turrets and 11 1/2 inch plates were placed on the decks.

It is interesting to note that much of *Wisconsin*'s armor is just as thick as battleships built 50 years earlier. *Wisconsin* and her sisters, however, benefitted from advances in steel technology that allowed mills to forge the steel at higher temperatures and heat treatment, which in turn produced a much higher quality steel that was stronger and more elastic.

Two plants, Bethehelm Steel's main mill in Bethehelm, PA and Luken Steel's Coatsville mill just ouside Phildadelphia, manufactured most of the armor plating. For the turret plate, however, a special forge was constructed just for the *Iowa*-class at the Charleston Ordnance Works in Charleston, WVA.

Armor and guns weighed *Wisconsin* down considerably, which under normal circumstances would have meant the ship would not be able to achieve a very high rate of speed. BDAB, however, set a very high bar for *Wisconsin* and her sisters. BDAB wanted the new class of warships to steam at 33-knots. This would make them the fastest battleships ever built. They would be four knots faster than *Bismarck*, eight knots faster than the *Yamato*, and just as fast as any potential commerce raider.

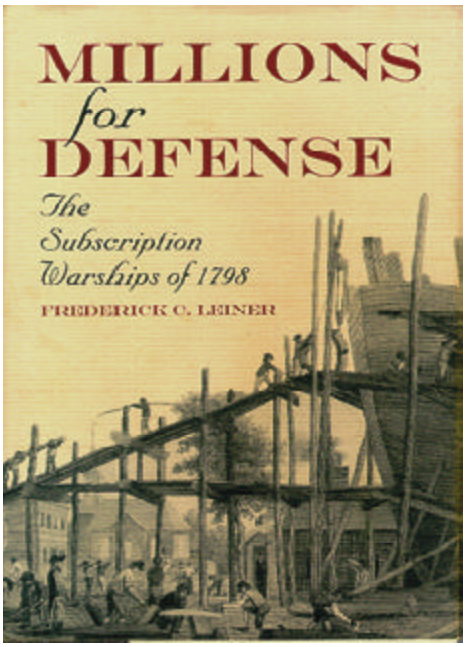
To achieve such speed, the hull of *Wisconsin* is over 200 feet longer than the *North Carolina*-class and *South Dakota*-

Wisconsin ***continued on page 14***

Book Reviews

Millions for Defense: The Subscription Warships of 1798

by Frederick C. Leiner
Reviewed by Joseph Mosier



The Quasi-War with France was the outcome of two revolutions. During America's War of Independence the French monarchy had supported American insurgents with arms and money. So much money in fact that it's effect on the French economy was one of the causes of the revolution which overthrew that monarchy. Attempts by the new United States government to negotiate with the Directorate which replaced the monarchy were met by demands for bribes. One response to the resulting XYZ Affair was the popular toast "millions for defense but not a cent for tribute." It is this toast which supplied the title for Frederick Leiner's exceptional new book.

Frederick C. Leiner. *Millions for Defense: The Subscription Warships of 1798.* Annapolis, MD: Naval Institute Press, 1999. ISBN 1-55750-508-X. 262 pages. $36.95.

The author focuses on one aspect of the Quasi-War, the effort to build a new American navy. With all of the ships of the Continental Navy gone by 1783, the United States faced the requirement to create a viable naval force out of whole cloth. An earlier potential conflict with the Barbary States of North Africa had led to the authorization of six frigates. By the time French privateers began to attack American shipping in the Caribbean, however, only half of these were nearing completion, and no smaller vessels were in the inventory of the War Department which then handled naval affairs. American merchants began to lose ships at an alarming rate with little prospect of things improving. In Norfolk, for example, trading was divided into a relatively few voyages to Europe in square-rigged ships and brigs and a substantially greater number of journeys in smaller vessels to the West Indies. Every issue of the *Norfolk Herald* of the day seemed to list yet more captures by French privateers. Some means of protection had to come or this pattern of losses would soon disrupt completely the American shipping trade.

The merchants of Newburyport, Massachusetts arrived at a solution. On May 23, 1798, they came together to jointly subscribe the funds to build a 20-gun warship for their country. Newspapers all along the coast reported this plan and created a snowball effect. Merchants in all of America's major seaport cities quickly followed Newburyport's lead. As Leiner points out, the initial decision to contribute the ship came before any prompting by the Federal government. Congress itself did not take up the idea of offering stock paying 6% interest to repay the merchants until after subscription efforts were well underway in Newburyport, Philadelphia and New York. Eventually, ten warships of varying rates were delivered to the new United States Navy Department, including the brig *Richmond* built by the merchants of Virginia.

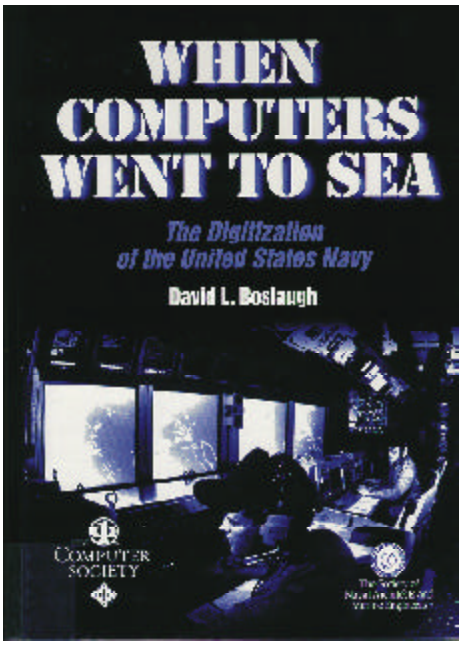
The author offers a detailed account of the subscription and building efforts behind each of these vessels. Moreover, he describes the subsequent service of each during the Quasi-War and beyond. As importantly, Leiner relates the history of the subscription ships with a keen eye to the political and economic tenor of the times. The second half of John Adams' presidency was certainly among the most boisterous political eras in American history. A relevant example was the urging of his own vice-president, Thomas Jefferson, to the French Minister not to accept Adams' plan to end the war because Jefferson would offer better terms if he were elected President. Leiner has done an excellent job in separating the cast of characters along political fault lines. He points out that, while the subscription effort was driven largely by those with Federalist leanings, many later counted as Republicans were influential in it as well.

Recent histories of the Quasi-War have ranged from the excellent (Michael Palmer's *Stoddert's War*) to the execrable (Robotti and Vescovi's *U.S.S. Essex and the Birth of the American Navy*). *Millions for Defense* complements the former and far surpasses the latter. Leiner writes clearly and convincingly. He also shows a wry sense of humor. One example is his discussion of the expenditures for liquor on the part of the builders of the frigate *Philadelphia*. Another is his pointing out that the retention of the name *Augusta* for a brig purchased from Norfolk's Moses Myers marked "perhaps the only time in the navy's history that a commissioned warship was named for a two-year old girl."

My only complaint about this fine work is a relative lack of illustrations and the absence of a map of the West Indies, primary area of operations for the subscription ships. The book is superbly documented with 48 pages of footnotes and a 12-page bibliography. In his acknowledgments, Mr. Leiner describes how he started on the book as a joint effort with the late W.M.P. Dunne and states his hope that Bill would have been proud of the final product. This reviewer too was a friend of Bill, who was often a raving critic. I feel sure he would have given *Millions for Defense* high marks. It is an exceptional effort that all interested in what one writer called "the first unofficial war of the official U.S. Navy" should both buy and read.

When Computers Went to Sea: The Digitization of the United States Navy

by David L. Boslaugh
Reviewed by J. Hunington Lewis



The title of one of the subchapters within this book is "Real-Programmers Do Not need to Document Their Programs." In amplification, Capt. Boslaugh writes that "Computer programmers, like engineers, seem to have an aversion to writing, for it is much more fun to design and test new computer programs than it is to write documentation describing them." He has, however, done an admirable (and most necessary) job of doing just that by documenting the development and introduction of the Naval Tactical Data System (NTDS) from World War II needs for better management of combat information until its gradual supersession by present day systems such as Aegis and Cooperative Engagement Capability.

David L. Boslaugh. *When Computers Went to Sea: The Digitization of the United States Navy*. San Jose, CA: IEEE Computer Press Society, 1999. ISBN 0-76950-024-2. 255 pages. $35.00

In fairness to the author and the readers of this review, I must say that I had no operational experience with NTDS while in the Navy, and my only post-Navy association was in supervising the preparation of changes to Ship Information Books to reflect hull, mechanical, and electrical alterations brought about by equipment changes in NTDS equipment. Therefore, I was really a lay reader of this book with no particular "feel" for the system or its equipment.

When fanning the pages of the book when I was given it for review, my first reaction was "Yuk!" when I saw the extensive use of acronyms and abbreviations such as UYK for "U - Universal, Y - Data Processing, K - Computing." But, as I dug into it, I found the stories of the individuals (particularly a group of Limited Duty Officers) and how they created a computer system in the early days of transistors and memory storage methods and provided it with multiple interfaces. It tells of how this computer system (which was the first to use solid state militarized digital computers) developed and expanded, overcoming fears in the fleet that computers would take away the ability to make command decisions, and how NTDS proved itself in Vietnam.

It is also a history of successful management involving the Navy and commercial contractors who worked together on a project which "historical precedent said that such a development should take 13 years. The NTDS project team did it in five."

The book comes without a jacket, thus there is no information about the author, except when he indirectly introduces himself two-thirds of the way through it; and at that point, he shifts from third person into occasional first person narration. This is somewhat disconcerting because at times, one wonders who the "I" in the book is. Although he plays a part in the development of NTDS and even a bigger role in subsequent systems (his final Navy posting was Director of the Navy's Tactical Embedded Computer Program Office), one can not find him in the index to his book — this is modesty to the extreme.

The bulk of the illustrations are of computer cabinetry or of the individuals who participated in the program. As a lay reader I would have liked to see more illustrative diagrams and drawings of the tactical displays, system relationships, and as an explanation of some of the more technical sections.

This a difficult book, saturated with information, and as one progresses though its 40 years span, it shifts from being a story of individuals creating both hardware and the supporting software to being program documentation as NTDS grows and accommodates other tactical systems. I just wish this book had been written some twenty years ago because it would have given a lot more meaning to my own work.

Daybook is Looking For Reviewers

Book reviews are an easier way to get published in *The Daybook* and the editor is currently looking for volunteers to write a few. All books reviewed will be on U.S. Naval history published within the last two years. Reviewers are encouraged to suggest books that they would like to review. Unlike the main article, a book review only has to be a 600 to 900 words and the reviewer gets to keep the book. Contact the editor at 757-322-2993 or gbcalhoun@nsn.cmar.navy.mil if you would like to write a review or if there is a book you would like to see reviewed.

Local Ships, One World Event

The primary mission of the Hampton Roads Naval Museum is to focus on the ships, events, and people of the United States Navy as it concerns the region of Hampton Roads. As a result, our exhibits and the articles of *The Daybook* focus on the activity of the Atlantic Fleet. A secondary part of the mission statement, however, does allow us some leeway when locally based ships are sent to the four corners of the Earth. Quite often locally based ships are sent into areas that normally fall under the Pacific Fleet or some other command's jurisdiction. This

The Museum Sage

is especially true with Korea and Vietnam.

The museum staff is often asked why we do not have any exhibits on Korea or Vietnam. The first answer to that question is answered earlier, the wars fall outside our primary jurisdiction. The second answer is space limitations on exhibits. Korea and Vietnam are not the only wars and naval events the museum had to leave out of the master exhibit script. We had to leave out as for examples Perry's Expedition to Japan, the Wilkes Expedition, the somewhat melodramatic, but intensely patriotic story of DESRON 8 in World War I, specific World War II convoy battles, and the quarantine of Cuba during the Cuban Missile Crisis. All of these events the Hampton Roads can lay a claim to.

Nonetheless, at the very least, starting now, we will at least acknowledge the regional role in the Korean War, being that it is the 50th anniversary of the war. We were recently asked by the Navy's regional public affairs

Workers at the Norfolk Naval Shipyard recommission the troop transport USS Latimer *(APA-152) in preparation for service in the Korean War, September 1950. The Navy called upon several locally based warships and support vessels to stem the communist tide in Korea. (Naval Historical Center photo)*

staff to put together a list of all the locally based ships that served in the conflict. The is the list we have come up with so far:

Battleships
USS *Iowa* (BB-61)
USS *New Jersey* (BB-62)
USS *Missouri* (BB-63)
USS *Wisconsin* (BB-64)

Aircraft Carriers
USS *Boxer* (CV-21)
USS *Leyte* (CV-32)
USS *Kearsarge* (CV-34)
USS *Valley Forge* (CV-45)
USS *Bataan* (CVL-29)
USS *Sicily* (CVE-118)

Heavy Cruisers
USS *St. Paul* (CA-73)
USS *Helena* (CA-75)

Light Cruisers
USS *Manchester* (CL-83)
USS *Juneau* (CLSS-119)

Destroyers and Destroyer Escorts
USS *Thompson* (DD-627)
USS *McDermott* (DD-667)
USS *Wiltsie* (DD-716)
USS *Walke* (DD-723)
USS *O' Brien* (DD-725)
USS *Mansfield* (DD-728)
USS *Orleck* (DD-730)
USS *Samuel N. Moore* (DD-747)
USS *John R. Pierce* (DD-753)
USS *Frank E. Evans* (DD-754)
USS *John W. Thomason* (DD-760)
USS *Shelton* (DD-790)
USS *Irwin* (DD-794)
USS *Agerholm* (DD-826)
USS *Perkins* (DD-877)
USS *Brinkley Bass* (DD-887)
USS *Nicholas* (DE-449)
USS *Renshaw* (DE-499)
USS *Lewis* (DE-535)

Support Vessels
USS *Competent* (AM-316)
USS *Redstart* (AM-378)
USS *Firecrest* (AMS-10)
USS *Gull* (AMS-16)
USS *Heron* (AMS-18)
USS *Osprey* (AMS-28)
USS *Grapple* (ARD-7)
USS *Dixie* (AD-14)
USS *Sarsi* (ATF-111)
USS *Latimer* (APA-152)

The Sage continues on page 13

The Sage continues from page 12

This list is a respectable showing for a war that occurred over several thousand miles away from Hampton Roads. We have yet to hunt down many of the support ships such as oilers and troop transports called out of the James River Reserve Fleet. In addition, we have yet to track down the specific involvement of Little Creek-based special warfare teams and locally based naval aviation squadrons.

This number of ships is surprising given the apparent Atlantic Fleet attitude towards the Korean War. Chase F. Cole wrote in his history *Korea Remembered* that there was an unsettlingly feeling about Korea among the Atlantic Fleet community. Cole, who served in Korea as a UDT officer before being transferred to Little Creek, sensed that "Korea was the 'other Fleet's Problem' just as the growing Russian problem and maintaining stability in the Mediterranean were the Atlantic Fleet's. As a result, the Atlantic Fleet seemed to remember World War Two, but be unaware of Korea. It seemed asleep, or if not that, at least at peace."

The Norfolk-based USS Valley Forge *(CV-45) on her second deployment to the coast of Korea, early 1951. The aircraft on deck are a Corsair fighter in the foreground and the ever tough AD Skyraider strike aircraft. (Naval Historical Center photo)*

"Contingents of enlisted men and officers regularly went in to see the skipper requesting duty in Korea, but were always turned down. Spreading around the strength of each other's experience just never happened. Meanwhile, the Pacific Fleet was confronted with a limited, though real enough war that nobody back east cared much about."

Cole somewhat understates the lack of Atlantic Fleet involvement as he claims only one major warship and a few destroyers came from the East Coast. However, his statement about the Atlantic Fleet is a valid one and it is one that could be extended to the American public-at-large. Let us not repeat Atlantic Fleet's position in 1950, by divorcing Hampton Roads from the Korean War. Yes Korea was in the Pacific, but this region was very much involved.

Useful Web Sites

Korea50.army.mil-This Department of Defense's official web site for the 50th Anniversary of the Korean War. It includes many resources designed both to remember and teach the visitor about the American involvement in Korea. The site includes information on all the Armed Services' role in the war.

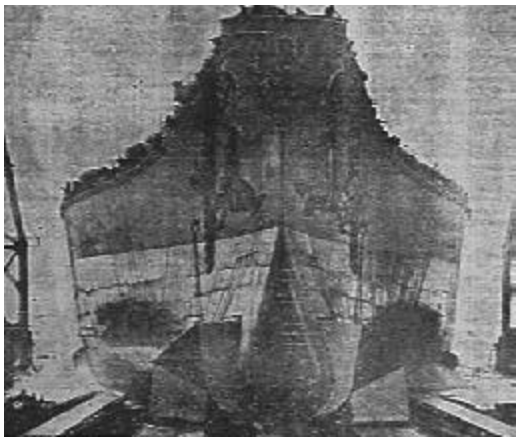
sites.communitylink.org/mac - This is the site for the MacArthur Memorial located in downtown Norfolk. The memorial primary mission is collection of General of the Army Douglass MacArthur. The memo rial is also the local coordinator for activities related to the 50th anniversary commemoration of the Korean War.

Navy Yard Launches Battleship Wisconsin, Mightiest in World

Illustrated on Page 22

The world's most powerful Navy yesterday launched the biggest and mightiest fighting vessel ever constructed as the U. S. S Wisconsin splashed into the murky waters of the Delaware River—

Mrs. Walter Goodland, wife of the governor of Wisconsin and sponsor of the battleship, prepares to christen and launch the warship. The Philadelphia Inquirer *declared, with good cause,* Wisconsin *the most powerful warship in the world. (All photos, December 8, 1943* Philadelphia Inquirer,



Seconds after Mrs. Goodland christened the battleship, workers pulled six massive triggers to release Wisconsin *down a thoroughly greased slip and into the Delaware River. (Photo from the Philadelphia Navy Yard newsletter)*

Wisconsin ***continued from page 9***

class. Additionally, workers installed the largest conventional engineering plant ever assembled on a U.S. Navy ship. *Wisconsin* was given twelve Foster Wheeler boilers along with Westinghouse manufactured engines. Together, the boilers and engines turned out over 220,000 ship horsepower on Wisconsin's four shafts.

Wisconsin's power plant continue to be the envy of Navy engineers to this day. This is not only due to their size, but also because they operated at 600 pounds per square inch. This lower pressure makes them very reliable, though it tends to make the ship somewhat of a fuel hog. Tom Dandes, a recently retired senior chief boiler technician whose last ship was USS *Kearsarge* (LHD-4), adds that when he saw *New Jersey*'s engineering plant, he noticed that, "The redundancy was unbelievable. Something could break down, which was rare, and no one would ever know the difference."

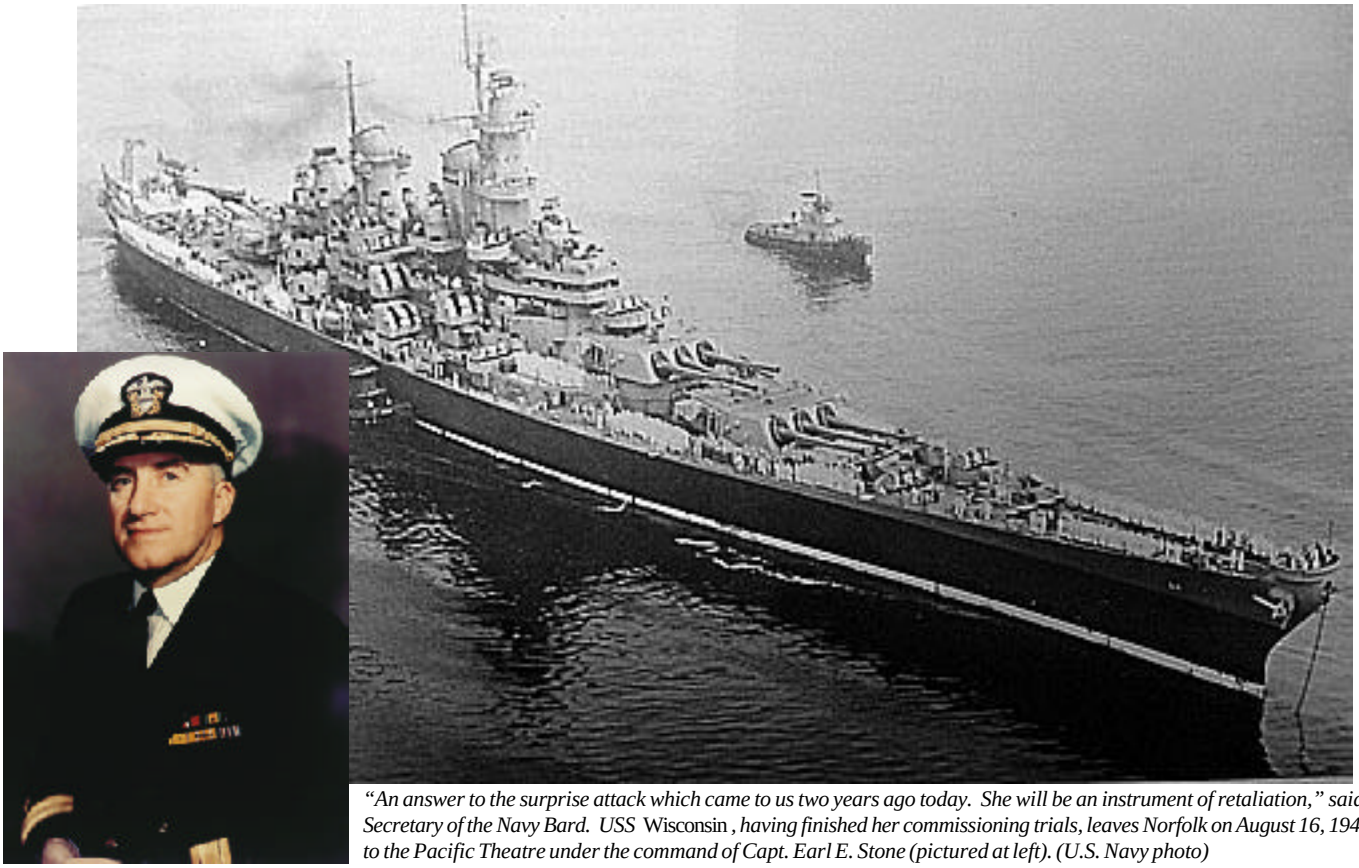
Even though *Wisconsin*'s design was very remarkable, some policy analysts were not sold on the idea that the United States needed more battleships. Instead, they advocated converting the hulls into aircraft carriers a la *Saratoga* (CV-2) and *Lexington* (CV-3). This opinion gain more momentum because of the vulnerability of battleships as shown by the attack on Pearl Harbor. Their plan called for the battleships to be converted into a similar size carrier as the *Essex*-class. But, Chief of Naval Operations Adm. Ernest King vetoed the carrier idea and instead pushed for accelerated construction of the *Iowa*-class due to their well-balanced design. "I cannot acquiesce in a complete cessation of BB construction," he commented to President Franklin Roosevelt.

Work on *Wisconsin* began on January 25, 1941 at the Philadelphia Navy Yard. Despite the title of battleship hull number 64, workers laid her keel down before workers in New York laid down the keel of *Missouri* (BB-63).

Even though the keel had already been laid, designers continued to tweak *Wisconsin* and her sisters' design. One of the things that made World War II different than most previous wars was that the combatants more quickly learned lessons of the battlefield and applied them to new weapon designs. The first instance was the British use of the antique Swordfish bi-plane in a torpedo bomber role. In 1940, Swordfish knocked out the Italian battlefleet and in 1941 is same bi-plane disabled *Bismarck* during her famous breakout sortie. The second event was the infamous Japanese air attack on Pearl Harbor on December 7, 1941. Further battle experience, such as the naval fights around Guadalcanal, gained by American battleships only reinforced the need for more secondary guns.

As a result, additional guns were to be placed to supplement the dual mounted five-inch guns. Twenty Mk2 quad mounted 40mm Bofers, 29 20mm single mounted guns, and several .50 caliber machine guns were added. The problem with adding such an impressive array of guns was that the ship would require an additional 1,900 sailors to an already cramped ship. Despite this problem, the risk of air attack was too great and the additional guns, and sailors, were ordered.

Wisconsin ***continued on page 15***



"An answer to the surprise attack which came to us two years ago today. She will be an instrument of retaliation," said Assistant Secretary of the Navy Bard. USS Wisconsin *, having finished her commissioning trials, leaves Norfolk on August 16, 1944 en route to the Pacific Theatre under the command of Capt. Earl E. Stone (pictured at left). (U.S. Navy photo)*

Wisconsin ***continued from page 14***

With the design details worked out, workers at Philadelphia worked round the clock on *Wisconsin*. Armor plating and normal steel arrived via the Reading Railraod from the steel mills in Bethlehem and Coatsville. Despite subcontractor delays and the complex nature of assembling a large warship, workers finished *Wisconsin* in 39 months. Specifically, it took 2,891,334 man-days to build. This was six months faster than Britain's *King George V*, ten months faster than *Bismarck*, and ten months faster than *Yamato*. On December 7, 1943, a very large crowd of people, 35,000 turned out to witness the christening. Among the people present were Governor Walter Goodland of *Wisconsin* and his wife, the ship's sponsor. Gov. Goodland gave a fiery speech denouncing the enemies of America, particularly the Japanese. He stated that the battleship *Wisconsin* had but one mission: "to destroy those who had the ill-founded idea that we are soft and easy of subjugation, but who have now been astounded by the miracles of production that now confound them."

The governor continued by stating that "this great ship is the existing exemplification of what a free people can do when their liberties and their free way of life are endangered."

Chantry made a few public remarks himself. He praised the teamwork and dedication of the Yard's employees. "My everlasting admiration and congratulations. I know you are as determined as I to get her into the battle line in the shortest possible time," he commented.

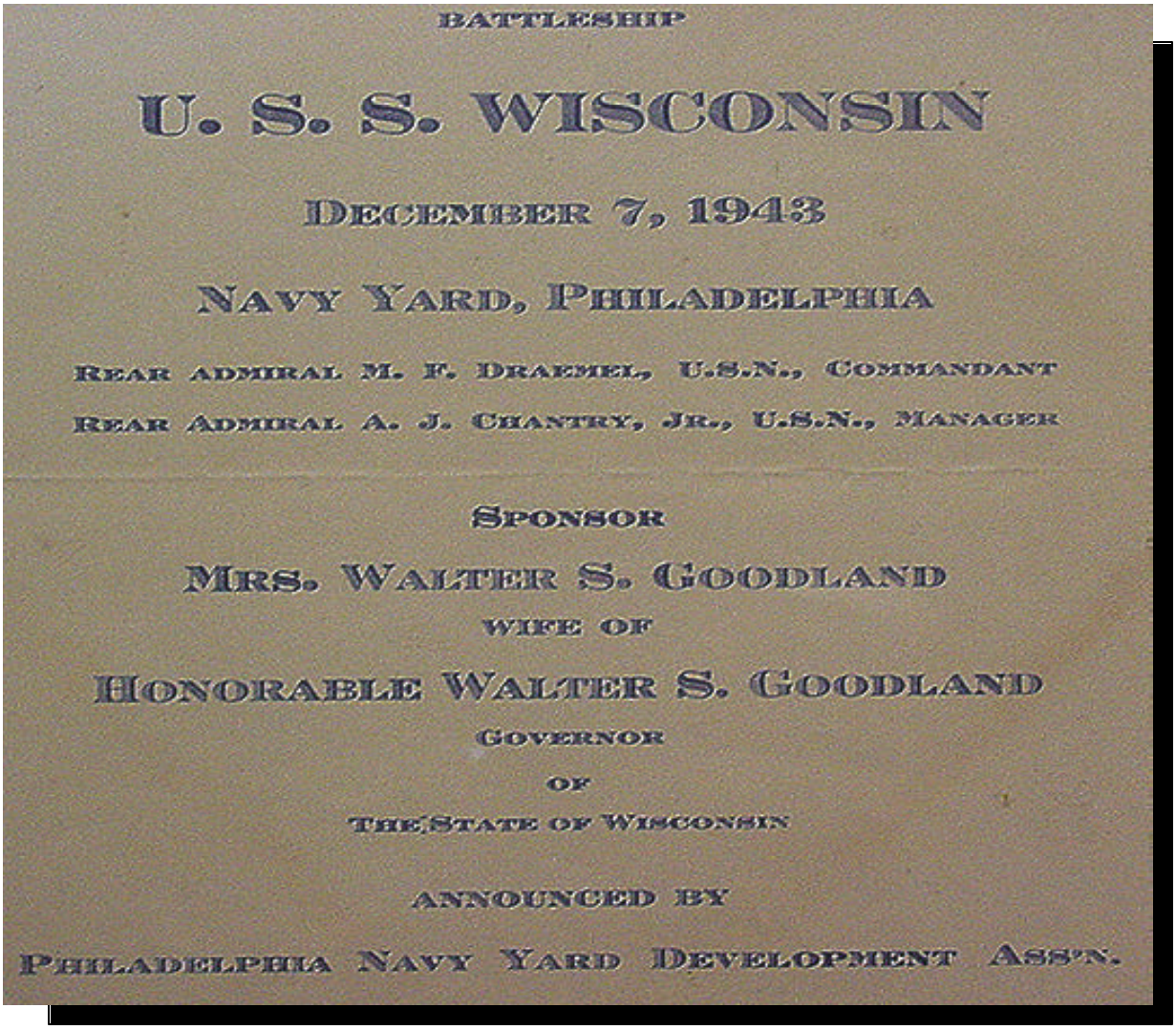
> *"This great ship is the existing exemplification of what a free people can do when their liberties and their free way of life are endangered."*
>
> -Governor Walter Goodland of Wisconsin at the launching of *Wisconsin*, December 7, 1943

Once completed and launched, the Navy placed Capt. Earl E. Stone as *Wisconsin*'s first commanding officer. A brilliant officer, Stone formerly worked at Tenth Fleet. Specifically, he coordinated the intelligence effort against the U-boats in the Battle of the Atlantic. His assignment as *Wisconsin*'s first CO was a reward of sorts for his outstanding work. *Wisconsin*'s crew spent the next five months working out bugs, and the Navy officially commissioned her into the fleet on April 16, 1944. Even then, not all the little problems had been fixed and it was a few more months before *Wisconsin* headed to Norfolk for her first assignment.

When the Navy received *Wisconsin*, it was getting one of the best-designed and most well built warships ever put together. She and her sisters defied the old adage that one had to sacrifice speed, protection, or firepower in order to achieve good results. Governor Goodland stated that *Wisconsin* "would be the last word in arms and armament." This statement still rings true today.

The editor would like to thank David Kohnen, curator for Nauticus' Wisconsin *exhibits, BTCS (SW) Tom Dandes (Ret.), HRNM docent Preston Turpin, Jim Kerner of Lehigh University, and Jack Landesberg, who has written a history of the Phildelphia Navy Yard.*

On Wisconsin…



In Our Next Issue….

- *A Grand Prize for the Region:*
  Capture and Refitting of the French Frigate L'Insurgent

- *Updated Information on* Wisconsin*'s Berthing and Tours*

- *Book Reviews:* Day of Deceit: The Truth About FDR and Pearl Harbor *by Robert B. Stinnett and* Broadsides: The Age of Fighting Sail, 1775-1815 *by Nathan Miller*