= Colorado @-@ class battleship =

The Colorado @-@ class battleships were a group of four battleships built by the United States Navy after World War I. However , only three of the ships were completed : Colorado , Maryland , and West Virginia . The fourth , Washington , was over 75 % completed when she was canceled under the terms of the Washington Naval Treaty in 1922 . As such , the Colorado @-@ class ships were the last and most powerful battleships built by the US Navy until the North Carolina class entered service on the eve of World War II .

The Colorados were the final group of Standard @-@ type battleships , designed to have similar speed and handling to simplify maneuvers with the line of battle . (The South Dakota class which was to follow would in several ways have been a departure from this practice .) Apart from an upgrade in striking power to eight 16 @-@ inch guns , the ships were essentially repeats of the earlier Tennessee class . The Colorados were also the last American capital ships built with four turrets and twin @-@ mounted guns . The change to larger guns was prompted by the Japanese Nagato @-@ class battleships , which also mounted eight 16 @-@ inch guns .

All three ships had extensive careers during World War II . Maryland and West Virginia were both present during the attack on Pearl Harbor on 7 December 1941 . Maryland escaped relatively unscathed ; West Virginia was sunk in the shallow waters of the harbor but subsequently raised and repaired . All three ships served as artillery support ships during amphibious operations . Maryland and West Virginia were present at the last surface action between battleships , the Battle of Surigao Strait during the Battle of Leyte Gulf in October 1944 . The three ships , put into the reserve fleet after the end of the war , were scrapped by the late 1950s .

= = Design = =

The construction of battleships armed with 16 @-@ inch guns was envisioned by the United States Navy General Board and Bureau of Construction and Repair (C & R) as early as 1913 , as the upgrade in gun caliber promised twice the kinetic energy of the 12 @-@ inch gun then in service and half again as much as the 14 @-@ inch gun then being introduced . This weapon dominated the design of battleships between 1913 and 1916 , just as the 14 @-@ inch gun had dictated designs from 1908 to 1910 . However , while the General Board approved the 16 @-@ inch gun as early as 1911 , the secretary of the navy felt that a move to a new gun caliber might make capital ships still on the drawing board obsolete . For this reason , he restricted the Bureau of Ordnance to proceed no further than blueprints for the new gun as a hedge against foreign developments . He finally approved construction of this gun in October 1912 and the weapon was test fired successfully in August 1914 . This success , along with the unofficial news in several naval publications of 15- and 16 @-@ inch weapons being adopted by Britain , Italy , Germany and Japan , the Board considered abandoning construction of the Pennsylvania class in favor of an up @-@ gunned design . Such a move meant an increase of 8 @,@ 000 tons per ship , twice as much as the jump from the Nevadas to the Pennsylvanias . Debate continued for the next three years . Each year , President Woodrow Wilson 's secretary of the navy , Josephus Daniels , balked at the potential increase in cost and ordered instead that the design features of Standard Class be upheld . Daniels finally compromised with the 1917 design battleships by allowing their armament to be upgraded . This , however , was to be the only substantial change to be allowed .

The design of the Colorado class , therefore , was taken from the preceding Tennessee class ; other than the notable improvement of eight 16 in (410 mm) / 45 caliber in four dual turrets taking the place of the Tennessee @-@ class 's twelve 14 in (360 mm) / 50 caliber guns in four triple gun turrets , there was not a major difference between the two designs . Likewise , the Tennessees were the results of modifications to the New Mexico class , which had been the most modern US capital ships to see service in World War I and had attracted the attention of British constructors both serving with and outside C & R. This similarity would carry over into the Lexington and South Dakota classes as the United States Navy increasingly standardized its capital ship designs . This was partly the result of wartime experience , when over 250 destroyers and more than 450 submarine

chasers had to be built quickly for service in the North Atlantic . The U.S. Navy had done this by a process almost akin to the assembly line , sticking to one basic design per class with a maximum amount of standardization and rationalization . Since the Naval Act of 1916 meant the imminent construction of 16 battleships and six battlecruisers , it was necessary to streamline production to save time and labor .

Nevertheless , while US battleships were standardized as much as possible , design improvements were incorporated whenever possible . Most of the changes in the Tennessees were incorporated prior to any of their keels being laid . However , plans for the underwater protection ? the ships ' main defense against torpedoes and shells that fell short of the ship but traveled through the water to hit underneath the waterline ? could not be worked out in time . The problem was that tests in caissons ? experiments that would eventually prove that a series of compartments divided between being filled with liquid and being left empty would be a very effective defense against torpedoes ? were not yet complete . In order to commence construction of the ships as soon as possible , bids sent out to shipbuilding corporations noted that if they were selected to build the ships , an alteration to the design of the ships three months after their keels were laid must be allowed .

= = = General characteristics = = =

The Colorados were extremely similar overall to the Tennessees , with a 624 @-@ foot (190 m) overall length and a beam at the waterline of 97 feet (30 m) . They displaced 32 @,@ 600 long tons (33 @,@ 100 t) at normal load and 33 @,@ 590 long tons (34 @,@ 130 t) at deep load and had a draft of 30 @.@ 5 feet (9 @.@ 3 m) . Like the Tennessees , they were designed with a clipper bow to make the ships dryer in rough weather . One improvement over previous classes was the location of the secondary battery in the superstructure rather than the upper hull , where it had proved to be excessively wet .

= = = Propulsion = = =

Turbo @-@ electric transmission , which had been used in the prior class , was retained here . Advantages included the ability for the turbines to run at optimum speed without regard to propeller speed , which led to greater fuel economy and range , and an easier sub @-@ division of machinery , which increased the ships ' ability to withstand torpedo hits . Each of the four propeller shafts was powered by a 5 @,@ 424 kilowatt electric motor , fed by two two @-@ phase turbo generators (General Electric for Maryland , Westinghouse for Colorado and West Virginia) rated at 5 @,@ 000 volts) . Eight oil @-@ fired Babcock & Wilcox water @-@ tube boilers , each in its individual compartment , provided steam for the generators . Altogether , the ships ' power plant was rated at 28 @,@ 900 electrical horsepower (EHP) to provide a flank speed of 21 knots (39 km / h ; 24 mph) . With a maximum bunker capacity of 4570 tons , the Colorados ' range without refueling at sea was 10 @,@ 000 nautical miles (19 @,@ 000 km ; 12 @,@ 000 mi) .

= = = Armament = = =

= = = = Main guns = = = =

The Colorado class was armed with eight 16 @-@ inch (406 mm) / 45 caliber Mark 1 guns , which fired a 2 @,@ 100 @-@ pound (950 kg) armor @-@ piercing (AP) shell at a muzzle velocity of 2 @,@ 600 feet per second (790 m / s) and a rate of about 1 @.@ 5 rounds per minute to a range of 34 @,@ 300 yards (31 @,@ 400 m) at a maximum turret elevation of 30 degrees . Development of this weapon had begun in August 1913 , using a bored @-@ out and relined 13 @-@ inch (330 mm) Mark 2 gun , with the promise of twice the muzzle energy of the 12 @-@ inch (305 mm) / 50 caliber Mark 7 guns and 50 percent more than the 14 @-@ inch (356 mm) / 45 caliber weapon used on the Nevada @-@ class battleships . After an initial proof firing in July 1914 and minor

changes , the 16 @-@ inch Mark 1 was re @-@ proved in May 1916 and production approved in January 1917 . When the Colorados were modernized in the 1930s , these guns were rebuilt per standard navy practice and redesignated 16 @-@ inch / 45 (40 @.@ 6 cm) Mark 5 and Mark 8 .

= = = = Secondary guns = = = =

Fourteen 5 @-@ inch (127 mm) / 51 caliber Mark 15 guns were installed to defend against enemy destroyers . This was reduced to 12 in 1922 . The Mark 15 fired a 50 @-@ pound (23 kg) shell at a velocity of 3 @,@ 150 feet per second (960 m / s) to a maximum range of 14 @,@ 400 yards (13 @,@ 200 m) at 45 degrees at a rate of seven rounds per minute and was extremely accurate , with a danger space longer than the range to the target for distances less than 3 @,@ 000 yards (2 @,@ 700 m) . As in the New Mexico and Tennessee classes , these were mounted in unarmored casemates on the main deck , one deck higher than in previous classes , to allow them to be manned in heavy weather if necessary .

In 1942 , the Mark 15 guns were replaced on West Virginia with sixteen 5 @-@ inch (127 mm) / 38 caliber Mark 12 dual @-@ purpose guns in twin turrets . On Maryland and Colorado ten Mark 15s were retained and augmented with eight 5 in / 38 cal Mark 12s in single mountings with protective shields ; the twin turrets planned and later installed were at that time in short supply . The Mark 12 fired a 55 @.@ 18 @-@ pound (25 @.@ 03 kg) shell to a maximum range of 17 @,@ 392 yards (15 @,@ 903 m) and a maximum elevation of 37 @,@ 200 feet (11 @,@ 300 m) at an elevation of 45 degrees . They had a high rate of fire due to their being hand @-@ loaded but power @-@ rammed and their capability for easy loading at any angle of elevation . The introduction of proximity @-@ fused anti @-@ aircraft shells in 1943 made the 5 in / 38 even more potent in this capacity .

= = = = Anti @-@ aircraft guns = = = =

Four 3 @-@ inch (76 mm) / 23 caliber guns were mounted initially for anti @-@ aircraft (AA) defense . This was increased to eight guns in 1922 . These guns fired a 3 @-@ inch (76 mm) shell at a muzzle velocity of 1 @,@ 650 feet per second (500 m / s) to a maximum range of 8 @,@ 800 yards (8 @,@ 000 m) and ceiling of 18 @,@ 000 feet (5 @,@ 500 m) at an elevation of 45 @.@ 3 degrees and a rate of between eight and nine rounds per minute . These weapons were replaced in 1928 @-@ 9 with the same number of 5 @-@ inch (130 mm) / 25 caliber guns , the first Navy gun designed specifically for AA use . They fired a 54 @-@ pound (24 kg) shell at a muzzle velocity of 2 @,@ 155 feet per second (657 m / s) at a rate of between 15 and 20 rounds per minute to a maximum range of 14 @,@ 500 yards (13 @,@ 300 m) at an elevation of 45 degrees and a ceiling of 27 @,@ 400 feet (8 @,@ 400 m) at a maximum elevation of 85 degrees . These guns were supplemented with eleven 28 mm machine guns in 1937 @-@ 8 .

In 1942 , the air defense system on these ships was overhauled completely . In addition to her 5 in / 38s , they carried sixteen Bofors 40 mm guns in quad mounts and up to thirty @-@ two Oerlikon 20 mm cannons in single mounts . The quad 40 mm Bofors fired a 1 @.@ 985 @-@ pound (0 @.@ 900 kg) at a rate of 120 rounds per minute per barrel nominal , 140 to 160 rounds per minute when horizontal (gravity assist) , to a maximum range of 11 @,@ 133 yards (10 @,@ 180 m) at 45 degrees and a ceiling of 22 @,@ 299 feet (6 @,@ 797 m) . The 20 mm Oerlikons fired a 0 @.@ 271 @-@ pound (0 @.@ 123 kg) shell at an average muzzle velocity of 2 @,@ 725 feet per second (831 m / s) and a practical rate of between 250 and 320 rounds per minute to a maximum range of 4 @,@ 800 yards (4 @,@ 400 m) at 45 degrees and a ceiling of 10 @,@ 000 feet (3 @,@ 000 m) .

A second overhaul of AA defense was made between 1944 and 1945 , as the Navy had found 20 mm shells too light to stop Japanese kamikaze planes ; this plus the higher approach speeds of these planes made these manually controlled guns obsolete . In their place , more quad 40 mm Bofors mounts were fitted . Maryland eventually carried forty quad 40 mm and eighteen 20 mm guns . Colorado 's quad 40s were increased to forty but she kept all her 20 mm guns . West Virginia

carried forty quad 40 mm and fifty 20 mm. guns .

= = = Armor and underwater protection = = =

The " all or nothing " armor scheme introduced in the Nevada @-@ class battleships was continued here , as throughout the Standard @-@ type warships , with armor suite virtually identical to the preceding Tennessee class . The exception was an increase in belt armor near vital machinery to 16 inches (410 mm) to correspond with the increased main gun caliber . Otherwise , the minimum thickness along the belt remained 14 inches (360 mm) . Upper deck armor was 3 @.@ 6 inches (91 mm) initially and was later increased to 4 @.@ 1 inches (100 mm) . Lower deck armor ranged between 2 @.@ 25 and 1 @.@ 5 inches (57 and 38 mm) and was also presumably strengthened during conversion .

As with the Tennessees , the Colorados were modernized in the 1930s to improve their staying power . A new underwater protection scheme featured five compartments separated by armored bulkheads.75 inches (19 mm) thick on either side of the ship : an outer empty one , three filled , and an empty inner one . In addition , the eight boilers were moved from their location in previous designs and placed in separate spaces to port and starboard of the turboelectric power plant . This arrangement formed another line of defense , which would allow the ship to sail if one or even an entire side of boilers was incapacitated . A consequence was the chief aesthetic change between the New Mexicos and Tennessees : the single large funnel of the former was replaced by two smaller funnels in the latter .

Other improvements imported from the Tennessee class included an attempt to move the forward torpedo room away from the 16 @-@ inch gun magazines , as the room was viewed as vulnerable . Also , the design called for the use of external , rather than internal , belt armor so that a " break in the continuity of the side structure " would not exist , which would minimize drag in the water and any corresponding waste of power .

= = Class history = =

With fiscal year 1917 appropriations , bids on the four Colorados were opened on 18 October 1916 ; though Maryland 's keel was laid on 24 April 1917 , the other three battleships were not until 1919 ? 1920 . With the cancellation of the first South Dakota class , the Colorados were the last U.S. battleships to enter service for nearly two decades . They were also the final U.S. battleships to use twin gun turrets ? the North Carolinas and second South Dakota classes had nine 16 @-@ inch / 45 caliber guns and the Iowas used nine 16 in / 50 caliber in three triple turrets .

= = = Inter @-@ war modernization = = =

Plans for modernization of the Tennessee and Colorado classes were made in October 1931 , in part to take advantage of loopholes in the Washington Naval Treaty . While reconstruction under this treaty was allowed only to increase protection from air and underwater attack , it could include improvements in fire control and increased elevation for main armament as these items were not listed in the treaty . Also , any changes made inside the hull could be justified as meant to increase protection , even if the outcome meant increased speed or longer operational range , since the term " blister " had been specified to limit changes only outside the hull , such as main armor belt thickness and main gun caliber . Modifications to the secondary battery were also outside the purview of the Washington Treaty .

Included in initial plans was some protection against chemical shells which contained poisonous gas , although the General Board stated in the late 1920s that decontaminating a battleship hit with these shells would not be possible ? the ship would have to be scuttled . Also , the deck armor was to be bolstered with 80 lb (36 kg) -special treatment steel (STS) ? which would add 1 @,@ 319 long tons (1 @,@ 340 t ; 1 @,@ 477 short tons) to the displacement of the ships ? the armor on the tops of the main turrets was to be made thicker , fire controls were to be improved with the latest

technology , and new shells for the main guns were to be designed . Two , later four , 1 @.@ 1 " / 75 caliber machine cannons were to be added , and all of the machinery in place would be removed in favor of newer equipment so that the ships would not lose any speed with the great increase in weight . Blisters were also to be installed to improve buoyancy but not to increase the ships ' beams any greater than 106 feet (32 m) so they could still use the Panama Canal when transferring from the Atlantic to the Pacific and vice verse . These improvements were estimated to cost about $ 15 @,@ 000 @,@ 000 per ship ($ 71 @,@ 723 @,@ 000 total) . However , with the country in the throes of the Great Depression , not much money was available for the Navy . Savings of $ 26 @,@ 625 @,@ 000 could be realized by reconditioning the propulsion machinery rather than replacing it , which would lower the ships ' speed . Adding protection against chemical shells could be dropped , along with development of the new shells . Nevertheless , the cost @-@ saving elements of the later proposal were later dropped . The Navy asked the Secretary of the Navy to request money in the fiscal year 1933 to modernize the two classes from Congress , but the depression worsened . Although proposals for modifications were still made , plans were put on hold and never carried out .

In the beginning of 1934 , the Bureau of Construction and Repair proposed that the " Big Five " ? the two Tennessees and three Colorados ? be fitted with anti @-@ torpedo bulges so that the ships could benefit from increased buoyancy ; because of , among other factors , the normal procedure of leaving port with the maximum amount of fuel possible on board , the five ships were quite overweight and rode low in the water . For example , in June 1935 , Tennessee had a normal operating displacement of 38 @,@ 200 long tons (38 @,@ 800 t ; 42 @,@ 800 short tons) ? more than 2 @,@ 000 long tons (2 @,@ 000 t ; 2 @,@ 200 short tons) above the maximum emergency load her original design called for . This made her draft higher ? meaning that the ship 's waterline was down 5 ft 4 in (1 @,@ 630 mm) . Construction and Repair called for a bulge on the Colorados that would displace about 2 @,@ 000 long tons (2 @,@ 000 t ; 2 @,@ 200 short tons) and raise the ships ' draft by 20 in (510 mm) . Installing these would be a year 's worth of work , with each ship spending six months of that in a dry dock ? the first month docked so that the hull shape could be determined , the next six sailing while the bulge was built , and the last five back in the dock so it could be added to the ship .

Three years later (1937) , the various Navy bureaus held a joint meeting to discuss a possible partial modernization of the Tennessee 's and Colorado 's . They were much different than the changes proposed in 1933 ; there were no provisions for extra deck armor , but many additions and replacements . To gain space for newer fire control systems , the ships were to be reboilered . The main and secondary battery fire controls were to be replaced , including new rangefinders and plotting room instruments for the main , while new Mark 33 anti @-@ aircraft fire control directors were planned . The mainmast and M2 Browning machine guns would be removed , and studies of the feasibility of a torpedo bulge , the addition of which Construction and Repair believed to be paramount , which would increase the beam to 108 ft (33 m) and displacement to 39 @,@ 600 long tons (40 @,@ 200 t ; 44 @,@ 400 short tons) . Varying plans for these were complete by October 1938 . None was a full reconstruction ; costs ranged from $ 8 @,@ 094 @,@ 000 to $ 38 @,@ 369 @,@ 000 per ship . However , as the money for the improvements would lessen the amount available for new battleship construction , and these would be better than even reconstructed old battleship , the Secretary of the Navy rejected these plans in November . Congress did appropriate $ 6 @,@ 600 @,@ 000 in 1939 for some of these improvements , including the bulges .

= = = World War II changes = = =

With the beginning of World War II in Europe , the Navy began to apply lessons learned by the British to U.S. ships . The King Board of 1940 ? 1941 proposed sweeping changes to the secondary armament of the battleships to increase their defense against air attacks . These included the removal of all 5 in (130 mm) / 25 caliber guns and 5 in / 51 in favor of the dual @-@ purpose 5 in / 38 , the addition of six quadruple 1 @.@ 1 in (28 mm) machine cannons , and the cutting away of

superstructure to clear arcs of fire for the new anti @-@ aircraft weapons . An ultimate secondary battery of sixteen 5 in / 38 in dual mounts , sixteen Bofors 40 mm in quadruple mounts and eight single Oerlikon 20 mm was called for by the board in 1941 , although they were not certain the ships could handle the added weight and it would take a large amount of time in dry dock for these modifications to take place . With these concerns , an interim measure of four 1 @.@ 1 in guns was proposed by the board ; however , the gun was not being produced in any great number very quickly , so a second interim solution was implemented . 3 in (76 mm) / 50 caliber guns were added to all of the U.S. ' battleships except for Arizona and Nevada by June 1941 ; these were replaced on the three battleships in the Atlantic by the 1 @.@ 1 in by November ? they received them first because they were closer to a war zone .

As these modifications were carried out upon the various battleships , much additional weight was added onto the already overweight ships , forcing torpedo bulges to be added so that a decent freeboard could be maintained . These would cost $ 750 @,@ 000 and around three or four months in a dry dock . The King Board suggested that the deck armor be bolstered and 5 in / 38 dual @-@ purpose guns be added , but the Chief of Naval Operations decreed that any major changes such as these had to wait due to the wars raging around the world at the time . The addition of bulges , however , was approved for the " Big Five " , with each ship spending three months in dry dock at the Puget Sound Naval Yard . Maryland would be first (17 February 1941 to 20 May) , followed by West Virginia (10 May to 8 August) , Colorado (28 July to 28 October) , Tennessee (19 January 1942 to 21 April) and California (16 March to 16 June) . However , the estimates for how long the addition of bulges would take were too low ; Puget Sound believed that they could complete work on Maryland in 123 calendar days (about four months) ? if the work would be given a priority equal to that of Saratoga 's refit and higher than new construction .

Only two of the ships had bulges added to them through this program , Maryland (completed 1 August 1941) and Colorado (26 February 1942) ; the attack on Pearl Harbor interrupted the refits intended for West Virginia and the two Tennessees . The surprise strike did not touch Colorado , which was at Puget Sound , and did not hurt Maryland very badly ; however , West Virginia was severely damaged and needed a major refit at minimum .

Little to no major modifications were made to the two active Colorados in the opening months of the U.S. ' s entry into the war ; all of the battleships in the Pacific Fleet had a constant order to be ready to sail within 48 hours in case of a Japanese attempt to invade Hawaii or the West Coast and could not be spared for any major yard work . Colorado was hurried through the rest of her refit with the addition of essential items like radar , splinter protection , 14 Oerlikon 20 mm and four 1 @.@ 1 in light anti @-@ aircraft guns ; Maryland received a similar treatment later , the only difference being 16 20 mm 's and no 1 @.@ 1 in . Although tower masts were constructed for Colorado and Maryland and a majority of the old cage masts were cut down by the ships ' crews in the beginning of 1942 , the ships could not be spared the time needed to install the new masts . The tower masts were placed into storage and not used until early 1944 .

Colorado and Maryland were greatly needed in the war zone , and as such did not undergo a major refit until 1944 , although minor additions and removals , mainly to the anti @-@ aircraft weaponry , were made in @-@ between . Throughout the war , both ships saw their anti @-@ aircraft battery changed constantly . Beginning in 1942 , they carried eight 5 in / 25 , four quadruple @-@ mounted 1 @.@ 1 in guns , a greatly varying number of 20 mm , and eight .50 caliber machine guns . In June 1942 , Colorado had fourteen 20 mm ; just five months later , this was upped to twenty @-@ two , with thirty @-@ six temporarily approved for a later time . By February 1943 , both Colorado and Maryland had two more quad 1 @.@ 1 in added (for a total of 6) and forty @-@ eight total 20 mm ; a month later she was given an additional ten .50 caliber machine guns . November 1943 saw the removal of two of the single @-@ purpose 5 in / 51 , the six quad 1 @.@ 1 in , and a small number of 20 mm (six in Colorado , eight in Maryland) in favor of thirty @-@ two Bofors 40 mm ? six quad and two twin .

Both ships finally underwent major refits in 1944 . Here the remaining cage masts were taken off in favor of the tower masts , the two twin 40 mm replaced by quads , a quadruple 20 mm added , and a new radar fitted . Although more extensive refits were proposed by Admiral Ernest J. King ,

including the addition of eight twin 5 in / 38 , more advanced fire control systems , and a second protective deck plating , the Bureau of Ships , after demonstrating what would have to be removed as compensation for the weight added for King 's ideas , counter @-@ proposed that a smaller reconstruction , like the ones given to the New Mexico class , would be more desirable . However , no action was taken until Maryland was struck by a kamikaze aircraft . While undergoing repair , eight twin 5 in / 38 were added , but nothing else ; her conning tower was removed and replaced by a 50 lb (23 kg) special @-@ treated steel structure to balance the additional weight of the 5 in guns .

= = Ships in class = =

= = = USS Colorado = = =

USS Colorado (BB @-@ 45) was the third ship of the United States Navy named in honor of the 38th state . Her keel was laid down on 29 May 1919 by the New York Shipbuilding Corporation of Camden , New Jersey . She was launched on 22 March 1921 and commissioned on 30 August 1923 , Captain R. R. Belknap in command . During her career , Colorado was involved in various ceremonies and fleet exercises , and assisted Long Beach residents following an earthquake there in 1933 . In 1937 , she was one of several ships that searched for Amelia Earhart after her plane went missing . Colorado was at Puget Sound at the time of the attack on Pearl Harbor on 7 December 1941 .

She returned to Pearl Harbor April 1942 . From November 1942 to September 1943 she was stationed in the South West Pacific . In November 1943 , Colorado participated in operations against the Japanese during both the Gilbert and Marshall Islands campaign and Mariana and Palau Islands campaign , and she shelled Luzon and Okinawa in advance of the planned amphibious assaults there . Following World War II Colorado participated in Operation Magic Carpet before being decommissioned in 1947 . She was sold for scrap in 1957 .

= = = USS Maryland = = =

USS Maryland (BB @-@ 46) was the third ship of the United States Navy to be named in honor of the seventh state . Her keel was laid down 24 April 1917 by Newport News Shipbuilding Company of Newport News , Virginia . She was launched on 20 March 1920 and commissioned on 21 July 1921 , with Captain C.F. Preston in command . During her career she made a goodwill voyage to Australia and New Zealand in 1925 , and transported President @-@ elect Herbert Hoover on the Pacific leg of his tour of Latin America in 1928 . Throughout the 1920s and 1930s , she served as a mainstay of fleet readiness through tireless training operations .

In 1940 , Maryland changed her base of operations to Pearl Harbor . She was present at Battleship Row along Ford Island during the Japanese attack on Pearl Harbor on 7 December 1941 . Damaged during the attack , Maryland reported to the Puget Sound Navy Yard , where she was repaired and modernized . Maryland supported the amphibious landings during the Battle of Tarawa , and thereafter participated in the Gilbert and Marshall Islands campaign , the Mariana and Palau Islands campaign , the Battle of Peleliu , the Philippines Campaign , and the Battle of Okinawa . Following the end of World War II Maryland participated in Operation Magic Carpet before decommissioning in 1947 . She was sold for scrap in 1959 .

= = = USS Washington = = =

USS Washington (BB @-@ 47) was the second ship of the United States Navy named in honor of the 42nd state . Her keel was laid down on 30 June 1919 at Camden , New Jersey , by the New York Shipbuilding Corporation . She was launched on 1 September 1921 , but on 8 February 1922 , two days after the signing of the Washington Naval Treaty for the Limitation of Naval Armaments ,

all construction work ceased on the 75 @.@ 9 % completed dreadnought .

The ship was towed out in November 1924 to be used as a gunnery target . On the first day of testing , the ship was hit by two 400 @-@ pound (180 kg) torpedoes and three 1 short ton (0 @.@ 91 t) near @-@ miss bombs with minor damage and a list of three degrees . On that day , the ship had 400 pounds of TNT detonated on board , but she remained afloat . Two days later , the ship was hit by fourteen 14 @-@ inch (360 mm) shells dropped from 4 @,@ 000 feet (1 @,@ 200 m) , but only one penetrated . The ship was finally sunk by the battleships New York and Texas with fourteen 14 in shells . After the test , it was decided that the existing deck armor on battleships was inadequate , and that future battleships should be fitted with triple bottoms .

= = = USS West Virginia = = =

USS West Virginia (BB @-@ 48) was the second ship of the United States Navy named in honor of the 35th state . Her keel was laid down on 12 April 1920 by the Newport News Shipbuilding and Drydock Company of Newport News , Virginia . She was launched on 17 November 1921 and commissioned on 1 December 1923 , Captain Thomas J. Senn in command . Despite a grounding incident early in her career West Virginia received high acclaim for gunnery and armor protection , and was involved in exercises to test the defenses of the Hawaiian Islands in the 1930s . On the morning of 7 December 1941 , West Virginia sustained heavy damage , but thanks in large part to counter flooding orders the battleship sank at her berth on an even keel , which is similar to that of California . Resurrected from the mud on 17 May 1942 , West Virginia received enough patchwork to sail for Washington State ; she entered Puget Sound Naval Shipyard in 1942 for repairs and modernization .

In July 1944 she emerged from her repairs and overhaul , and set out to rejoin the Pacific Fleet for combat operations . She joined the fleet on the eve of the Philippines Campaign . There she participated in the Battle of Surigao Strait , the last battleship vs battleship duel of World War II , where her new Mk . 8 fire @-@ control radar allowed her to hit the Yamashiro with her first salvo - in the dark - at 22 @,@ 800 yards (20 @,@ 800 m) . In February 1945 West Virginia participated in the Battle of Iwo Jima , initially by preinvasion bombardment , and later by callfire support for the ground forces on the island . Her last combat operations were during the Battle of Okinawa ; after the surrender of Japan , she was called upon to participate in Operation Magic Carpet . Decommissioned in 1947 , she was sold for scrapping in 1959 .