

Manitowoc Shipbuilding Company: from Depression to Wartime Boom

Colt M. Nicklaus
History 489
April 8, 2015

Copyright for this work is owned by the author. This digital version is published by McIntyre Library, University of Wisconsin Eau Claire with the consent of the author

Abstract

Manitowoc Shipbuilding Company from 1902-1945 went through a variety of changes and struggles. This paper examines how because of Manitowoc's population and skilled labor force, as well as its location on the Great Lakes, was the perfect place for a shipbuilding company. World War II and submarine contracts also played a vital role in why Manitowoc Shipbuilding Company had survived the Great Depression without failing. Submarine and other shipbuilding contracts awarded to Manitowoc Company helped the Company and the city of Manitowoc to thrive after the Great Depression.

Contents

Abstract	i
Introduction	1
Early Years	4
The Depression	5
Manitowoc Profile as a City	8
World War II and the Submarine	16
Comparison	28
Post Submarine	30
Conclusion	32
Bibliography	34

Tables

1	Manitowoc Ward Populations	11
2	Manitowoc City Populations	11
3	1940 Shipbuilders Census Data and 2014 Equivalent Income	15

Figures

1	Manitowoc Ward Map	9
2	Side Launch of PETO	23

I: Introduction

A combination of honest workmanship, engineering, and organizational skills plus conscientious attention to details in all phases of construction and delivery of these ships gained for the Manitowoc Shipbuilding Company an enviable reputation which was formed by their ships' performance in combat. It was and is my considered opinion that the best submarines constructed by any shipbuilding yard, private or government, during the war were these 28 Manitowoc-built ships.¹

- Commander Ralph M. Metcalf

Commander Ralph Metcalf, the second commanding officer of the *Pogy*, and first commander of the *Loggerhead*, describes how Manitowoc Shipbuilding Company had built some of the best ships that fought in World War II. Examples like this one help to understand how and why the United States Navy chose Manitowoc Shipbuilding Company for so many different contracts throughout World War II.

Manitowoc shipbuilding dates back to 1847, when for many years, several companies were active in the building of wooden ships. All of these ship yards eventually faded away, with the exception of one firm that was owned by Henry B. and George B. Burger. The two men operated a shipbuilding, dry docking, and repair yard where the present Manitowoc Shipbuilding Company is located.²

¹ William Hakala, *Voyage of Vision: The Manitowoc Company, A Century of Extraordinary Growth*. Manitowoc, Wisconsin: Lakes County Press, Waukegan, Illinois, 2002, 66.

² *Fifty Years of Problems and Accomplishments: 1902-1952*, Manitowoc Shipbuilding Co., Manitowoc, Wisconsin, 1952, How it started.

Two men from shipyards of Chicago decided to make a name for themselves, Elias Gunell, and Charles West went to Manitowoc in hopes to buy the Burger shipyard. At the time, both Henry and George Burger were getting old, and were ready to retire. On June 11, 1902 the Burger shipyard was sold to Gunell, West, and two other investors (T.J. Prindiville and E. J. Lenihan). The four men bought the Burger shipyard for \$110,000.00, with \$60,000 cash payable in installments between June and February of 1903. The mortgage went into West's name for the remaining \$50,000, except for the initial down payment of \$5,000. Each man owned a quarter of the stock in the business (1,500 shares total).³ The sale included an inventory of sheds, tools, machinery, derricks, floating docks, pumps, ropes, horses, and five scows. Also, the contract of the Burger shipyard bookkeeper, William Guttman, which ran for another eighteen months was purchased.⁴

West and Gunell when searching for a place to start their business, not only wanted to find a location that was already established like Burger shipyard, but they also wanted to find the perfect location. Manitowoc was unique for one main reason; they had a labor supply through the shipyards already in existence there, as well as the surrounding cities labor supplies, like Green Bay, Sheboygan, and Appleton. They knew that without a good work force, the business would fail, and Manitowoc had one

³ Hakala, "Voyage of Vision," 22-23.

⁴ Hakala, "Voyage of Vision," 23.

of the best labor markets on all of the Great Lakes. One of the main reasons for this strong labor force was Manitowoc's talent for skilled machine work. There were also plenty of farmers, who could be used for repair work during the winter months.⁵

The sale of the Burger shipyard company and its entire inventory was the beginnings of a vision for two men, who created a company that carried some of the highest regard and accomplishments of any shipyard in the United States. The following will examine how this shipyard became a company that the United States Navy used for many ships throughout World War II, as well as how this shipyard helped pull Manitowoc out of the negative effects of the Great Depression.

⁵ Hakala, "Voyage of Vision," 24-25.

II: Early Years

Manitowoc Shipbuilding Company grew at an exponential rate in its first years. The first year showed earnings of approximately \$10,000, which was considered satisfactory.⁶ From there, the company boomed. By 1916, the company built over seventy vessels. Many were smaller boats, but some were large. During the first few decades, Manitowoc built many tugs, and arguably the first two vessels built on the Great Lakes with turbo elective drive. These boats were the *Joseph Medill*, and the *Graeme Stewart* in 1907.⁷

Only eight year after the company had been founded, the *Alabama* was built. Elias Gunnell designed the *Alabama* himself, and approved every construction detail. This ship was a testament to what the company had accomplished in such a short period of time. Gunnell and West brought a wooden shipyard and old fashioned shipwrights into the modern steel shipbuilding era in only eight years.⁸

⁶ "Fifty Years of Problems and Accomplishments," 5.

⁷ *75 Years of Growth and Diversification: 1902-1977, The Manitowoc Company, INC* The Manitowoc Company, INC. Manitowoc, Wisconsin, 1977, 8.

⁸ Hakala, "Voyage of Vision," 27.

III: The Depression

The Great Depression had a major impact on the whole nation, and that included Manitowoc and Manitowoc Shipbuilding Company. The depression did not significantly affect the company until 1932 though. Sales dropped from an estimated 4,000,000 dollars in 1931, to 1,000,000 dollars in 1932. Sales eventually dropped to 500,000 dollars in 1933. That is a total loss of 3,500,000 dollars in sales over a two year span. The company had a net loss between 1932 and 1937. This caused Manitowoc Company to suspend all dividends.⁹

Another way the Depression affected the Company was through their workers. In 1932, salaried employees took a ten to twenty percent cut, and hourly wage workers were revised downward as well. Six months after the original pay cut, salaries were reduced another ten to thirty-five percent, as were hourly wages. This was a total of twenty to fifty-five percent cuts within six months. The company also had to reduce their workforce to only 350 workers in the shipyards. This may seem like a huge cut, but Manitowoc tried to keep as many employees as possible on the payroll. One way they did this was by having office staff only work in the mornings, and having the yard workers split between two five hour shifts.¹⁰

⁹ "75 Years of Growth and Diversification," 20.

¹⁰ "75 Years of Growth and Diversification," 20.

The lack of military spending after 1922 hurt Manitowoc Shipbuilding during the early days of the depression. The Washington Treaty of 1922 limited the size of naval forces of signatory nations, and a large part of the United States Navy fleet was scrapped out. Shipyards all over the Great Lakes who were flourishing during World War I, and were competing with Manitowoc for work no longer existed. Manitowoc did so well to survive because it expanded its products beyond ships to many non-marine areas. According to West, establishing a machine division “saved the bacon.”¹¹ Great Lakes shipyards were not the only yards to hurt during the early days of the depression. Many coastal shipyards also declined, and only six private shipyards capable of building vessels as large as destroyers and submarines remained in existence on the coasts.¹²

Congress in 1933 finally started spending money on shipbuilding again. Two hundred and thirty-eight million dollars was allocated for naval defense. These monies came from relief funds granted by Congress under the National Industrial Recovery Act. This grant resulted in the United States Navy building two aircraft carriers, four cruisers, twenty destroyers, and four submarines. Manitowoc Shipbuilding Company won contracts from the United States Coast Guard to build three patrol boats. One

¹¹ Hakala, “Voyage of Vision,” 50-51.

¹² Ibid, 51.

interesting fact about these patrol boats is that one of them, the *Eletra*, was later changed into President Roosevelt's yacht, the *Potomac*.¹³

More good news came in 1936, when Congress nullified the Naval Armament Limitation Treaty, which had stopped naval production to stop an arms race after World War I.¹⁴ Congress then authorized a construction program to make up for the previous fifteen years of neglect toward shipbuilding. This tripled the amount of ships appropriated in the previous year. Other changes from Congress came as well. The Merchant Marine Act of 1936 helped to change the shortage in merchant ships.¹⁵ This same year Manitowoc Shipbuilding Company received an order from Standard Oil of Indiana to build the oil tanker named Red Crown. They also built another oil tanker for Socony-Vacuum Oil Company.¹⁶

¹³ Ibid. 51

¹⁴ League of Nations Treaty Series, vol. 25, pp. 202-227.

¹⁵ **Merchant Marine Act, 1936**

¹⁶ Hakala, "Voyage of Vision," 51-52.

IV: Manitowoc Profile as a city

Looking at the city of Manitowoc's profile in 1940, will help to explain how shipbuilding, and in more particular Manitowoc Shipbuilding Company, made a significant contribution to helping Manitowoc get out of the depression. The following will examine the cities growth, as well as the profile of four different wards in the city that were comprised of middle class workers, and housed the majority of people in the shipbuilding industry at the time of 1940, since these were the four wards that surrounded the shipbuilding yard. The map on the following page shows where wards three through six are located. Manitowoc Shipbuilding Company was located on the first bend/peninsula on the Manitowoc River.

The city of Manitowoc in 1920 had 17,563 residents working in a variety of different industries. By 1930, Manitowoc grew by 5,400 people to 22,963. The city then grew more slowly from 1930 to 1940, growing by 1,441 people up to 24,404 people. This decrease in the growth rate could be due to the Great Depression, which affected the economy and decreased work throughout the United States. The growth of Manitowoc increased though from 1940 to 1950. The city increased by 3,194 people. This is the largest increase in population since the 5,400 increase from 1920 to 1930.¹⁷ Manitowoc continually increased from 1920 to 1950, with a total increase of 10,035 people, which is a total increase of thirty-six percent over the thirty year span. Table one and two below help to visualize the growth between each year in the different wards of Manitowoc, as well as the overall population. The city of Manitowoc did well due to companies like Manitowoc Shipbuilding, and others that helped keep the city alive, even during the Great Depression and other times of recession.

¹⁷ *The Wisconsin Blue Book 1931*. Compiled by the Wisconsin Legislative Reference Library. Democratic Printing Company, Madison, Wisconsin. 1931, 611.; *The Wisconsin Blue Book 1942*. Compiled by The Wisconsin Legislative Reference Library. Published Biennially by the State of Wisconsin. 1942, 434.; *The Wisconsin Blue Book 1952*. Compiled by the Wisconsin Legislative Reference Library. Published Biennially by the State of Wisconsin. 1952, 476.

Table 1: Manitowoc Ward Populations

Ward	1920 Population	1930 Population
1	2165	2148
2	1833	2286
3	3589	4562
4	2553	2670
5	2638	3756
6	1313	2884
7	3472	4657

Table 2: Manitowoc City Populations

Year	Population
1920	17563
1930	22963
1940	24404
1950	27598

In order to gain a deeper understanding of how Manitowoc Shipbuilding Company played a significant role in the city of Manitowoc, it is helpful to look at the 1940 United States census, and break the profile of city down to its wards. A sample of thirty-three adults was taken from each of the four wards that surrounded Manitowoc Shipbuilding Company in 1940. The sample was drawn by taking every third adult worker until the hitting thirty-three for each ward. This number was chosen for its

simplicity and randomness. The goal of this data is to show the average percent of the population in Manitowoc that worked in shipbuilding prior to the World War II contracts that will be discussed later. The first district that will be discussed is district three.

District three is the first of the four districts that will be discussed. District three in 1940 housed people of many different occupations. According to the sample, six of the thirty-three people worked in retail. Aluminum and shipbuilding were the next two largest amounts of people, and each had four people for their industry. With that being said, district three had approximately twelve percent of their adults employed in shipbuilding.¹⁸

District four in 1940, was much like district three. There were three people employed in shipbuilding at the time. This equaled to nine percent of the population in ward four according to the sample. The aluminum industry employed five people, and then there was a large array of different employments throughout the rest of the ward. Some of these other jobs included construction work, retail, mechanical, and management.¹⁹

¹⁸ Ancestry.com. *1940 United States Federal Census* [database on-line]. Provo, UT, USA: Ancestry.com Operations, Inc., 2012,

¹⁹ Ibid.

District five employed the most people in shipbuilding between all of the wards that data was collected on. There were ten people from the sample in ward five that were employed by shipbuilding in 1940. That is an estimated thirty percent of that population. Aluminum also employed many people from this ward, with eight people from the sample being in the aluminum industry.²⁰

Ward six had the same outcomes like that of wards three and four. Ward six had three people employed in shipbuilding, at an estimated nine percent, this falls back into the normal range. According to the sample, there were four people employed in the aluminum industry as well.²¹

Using Consumer Price Index helps to show change in income from 1940 to the present. This is important to help understand what pay was like for those employed in shipbuilding then in comparison to today's dollars. Of the four wards that were used for this sample, the average pay was 1,173.87 dollars per year. This is equivalent to 19,846.79 dollars using 2014's CPI. Below is the average pay of the four districts in 1940, and what that is equivalent to as of 2014. The average pay of the four people employed in shipbuilding in ward three during the time was approximately 858.25 dollars. That is approximately equivalent to 14,510.56 dollars as of 2014's CPI rates. The average pay of the three shipbuilders in district four in 1940 was 1,658.67 dollars. This is equivalent to

²⁰ Ibid.

²¹ Ibid.

28,043.20 dollars. The average pay in district five was 1,411.90 dollars. This is equivalent to 23,971.20 dollars. The average pay of the three workers in district six was 766.67 dollars. That is equivalent to 12,962.14 dollars.²² Table 3 below helps to show the variety of workers in shipbuilding and their incomes in 1940 compared to what their incomes would be as of 2014

²² Ibid.

Table 3: 1940 Shipbuilders Census Data and 2014 Equivalent Income

Ward	Occupation as Shipbuilder	1940 Income in dollars	2014 Equivalent Income in dollars
3	Electric Welder	500	8453.57
3	Riveter	300	5072.14
3	Carpenter	800	13525.71
3	Tool Maker	1833	30990.79
4	Mechanical Draftsman	1800	30432.86
4	Engineer	1400	23670
4	Machinist	1776	30027.09
5	Carpenter	1440	24346.29
5	Rivet Holder	835	14117.46
5	Time Keeper	1300	21979.29
5	Machinist Helper	1430	24177.21
5	Foreman Dry Dock	3000	50721.43
5	Watchman	987	16687.35
5	Riveter	740	12511.29
5	Tool Repair	1127	19054.35
5	Machinist Helper	1860	31447.29
5	Maintenance Man	1400	23670
6	Engineer	1700	28742.14
6	Common Laborer	200	3381.43
6	Carpenter	400	6762.86

The census data helps to explain how shipbuilding played a significant role in keeping Manitowoc going after the Great Depression by employing a large population of the city by employing a large portion of the workforce. Also, the incomes that they provided may not have been impressive, but during a time of recession, it was a significant amount of money given. One must understand when looking at this data though, that the lowest income from the sample was 200 dollars, and the largest was 3,000 dollars. That is equivalent to 3,381.43 dollars, and 50,721.43. With that being said, there is a significant difference between the lowest paid employees who were more than likely part time, as well as only a common laborer, and the highest paid employee in the sample, who was a foreman. The difference in pay is significant because it helps to show how shipbuilding in Manitowoc employed people with different skill sets and employment needs.²³

V: World War II and the Submarine

Towards the end of the Great Depression, Manitowoc Shipbuilding Company started to regain their feet after many years of hardships. World War II gave the final push, and eventually made Manitowoc a booming community due to the contracts that were received from the United States government to help aid in the war effort.

Manitowoc was a strong front runner for shipbuilding contracts for the United States because they had a strong résumé compared to all of the shipbuilders in the Great

²³ Ibid.

Lakes. What made their résumé so good was that they had built the greatest variety of vessels than any other company on the Great Lakes. Another main reason why they were the best candidates for many contracts was because Manitowoc had a machine shop and steel fabricating shop. This meant that they would get the opportunity to build more, and more complicated vessels than many others.²⁴

A main issue in being a Great Lakes shipyard was that you only could build smaller boats due to locks on the rivers only being big and deep enough for smaller craft to fit in. Manitowoc found a way to resolve this issue, proving that they wanted the Navy contracts. They created a pontoon style floating dry dock to transport Navy vessels down the Mississippi river. This pontoon style dry dock held the boats above the water so they wouldn't hit the bottom of the river floor as they were transported due to depth of the vessels. This drew the attention of many.

Shortly after Manitowoc submitted the plans for the floating dry dock, Charles West, the president of Manitowoc Shipbuilding Company, was introduced to Lawrence Spear, the president of Electric Boat Company of Groton, Connecticut. Electric Boat Company was the only private shipyard in the United States that built submarines for the Navy. Spear wanted Manitowoc to help aid in the construction of the submarines.

²⁴ "75 Years of Growth and Diversification," 22.

West turned down the offer initially, but then was told to go to Washington to speak further on the matter.²⁵

In June of 1940, West appeared in Washington. He met with Admiral Claude Jones, and Admiral S. W. Robinson, the head of the Navy's Bureau of Ships. They discussed how they knew a lot about Manitowoc Shipbuilding Company and the plan for a pontoon style floating dry dock, which gets rid of the issue of how to get ships that were built to the ocean. The Navy men offered eight million dollars to help pay for the dry dock and any other costs in building submarines. West turned down the offer.²⁶

After the meeting with the Navy, West called upon some of his top engineers from Manitowoc to come to Connecticut to view Electric Boat Company's work on submarines. They looked at Electric's shipyard, and then eventually went to Portsmouth Naval Yard in New Hampshire to tour a finished submarine. West and others from Manitowoc toured the rebuilt *Sailfish*. The *Sailfish* was originally the *Squalus*, which sunk off of Portsmouth a year prior during her sea trials. Walking through this ship was a humbling experience for West. Twenty-six men had died on the submarine, and that made West realize how important it was to make sure these vessels were built perfectly and with precision. After reviewing in his mind everything that he had seen at Electric, and the Navy yard, West stated, "Damn it, Armin, if these fellows

²⁵ "75 Years of Growth and Diversification," 22-23.

²⁶ "75 Years of Growth and Diversification," 23.

can build submarines, so can we.” This was the moment of truth for Manitowoc Shipbuilding Company; they were going to move forward building Navy ships.

On September 9, 1940, The United States Navy awarded Manitowoc Shipbuilding Company a thirty million dollar contract.²⁷ Manitowoc was to build ten of its new Gato-class fleet submarines over a five year period.²⁸The contract stated that Manitowoc would be paid on a cost plus fixed fee basis. A cost plus fixed fee contract is when the company is paid a fixed amount for building the ships, but then will be paid more if there are changes that are needed to be made during the construction as well as building cost. Also, they agreed on a bonus system if there was early delivery of the submarines and if there was a savings in the cost of construction of the vessels. The Navy also agreed to advance approximately one million dollars for plant improvements and additional facilities. Manitowoc matched that amount as well to aid with this.²⁹

Manitowoc’s fixed fee of 171,000 dollars per boat was based on a six percent of estimated costs of 2,850,000 dollars. This meant that the profit for each ship built would be six percent of the estimated cost to build the ship. The cost included all labor, plant operating expense, and material. The yard was also protected against cost overruns resulting from navy design changes once the submarine was in production. It was also

²⁷ Hakala, “Voyage of Vision,” 61.

²⁸ “Fifty Years of Problems and Accomplishments,” 16.

²⁹ “75 Years of Growth and Diversification,” 23.

protected from escalation in material costs brought upon from shortages. The bonus offered by the navy was 28,500dollars per boat that was completed early. Also there was a 100 dollars per day bonus for each day saved when submarines were delivered early.³⁰

The contract between the Navy and Manitowoc was sent out to Manitowoc Shipbuilding Company one hour after President Franklin D. Roosevelt signed a five billion dollar appropriation bill called the Two-Ocean Navy Bill. This bill authorized the Navy to build 201 ships in total. Seven were to be battleships, eight aircraft carriers, twenty seven cruisers, 115 destroyers, forty three submarines, and one repair ship. To show the urgency of how fast the government wanted their boats, many Manitowoc shipyard workers created a slogan, "Uncle Wants His Boats!"³¹ This helped to prove how important these contracts were for not only Manitowoc Company, but also the government.

It was not long before the submarine program started. On February 12, 1941, the first steel for the program arrived on site. At this point, Manitowoc Shipbuilding plant was almost completely converted into a war production plant ten months before the attack on Pearl Harbor occurred. The perimeter of the grounds was completely fenced, and guarded by sixty armed men. The security was extremely serious, every shipyard

³⁰ Hakala, "Voyage of Vision," 65.

³¹ Hakala, "Voyage of Vision," 61.

worker had to have mug shots taken of themselves, and submit to being finger printed.³²

The first sign of the submarine contracts changing the city of Manitowoc's profile is seen shortly after the start of the submarine building. The management of Manitowoc anticipated that they would need 2,000 more workers in order to build the ten submarines and keep up with regular business. Adding 2,000 workers would double their workforce. The first day that the Navy contract was on the front page of the Manitowoc Herald-Times, more than 500 men appeared at the employment office. Most were turned down for lack of qualifications though.³³

Due to the high need for workers, Manitowoc Company decided to expand its on-the-job training program that had begun thirty five years earlier. Over the next three years, the machinist division of Manitowoc grew to 1,100 workers. This was not enough though, and Manitowoc had to expand its area of where they looked for help. Manitowoc hired people from cities that were close enough to Manitowoc that they could supply bus services to and from work. Some of the cities that Manitowoc hired from were Appleton which was one hour away, Green Bay which was forty five minutes away, Sheboygan which was thirty minutes away, and Two Rivers which was

³² Hakala, "Voyage of Vision," 62.

³³ Ibid. 62.

only fifteen minutes away, as well as many other towns in the area. Manitowoc also recruited workers from nearby states like Minnesota and Michigan.³⁴

A large number of these workers decided to move to Manitowoc. Mayor Martin Georgenson of Manitowoc saw a shortage of housing for the city of 24,000 people. Georgenson expected that the city would need to build 200 new houses to accommodate for the married workers alone. He started to make plans for federal subsidized housing. He was too conservative though in his estimate, as the city soon had more than 400 new houses on its tax roll. Another 250 homes were eventually built to accommodate the Navy families that began to move into Manitowoc. The shipbuilding contracts gave the city of Manitowoc a new buzz. The city was starting to fix itself up. Movie theaters were adding fresh paint to their walls, marquees were replacing broken light bulbs, and many new shops, cafes, and bars were opening up around town.³⁵

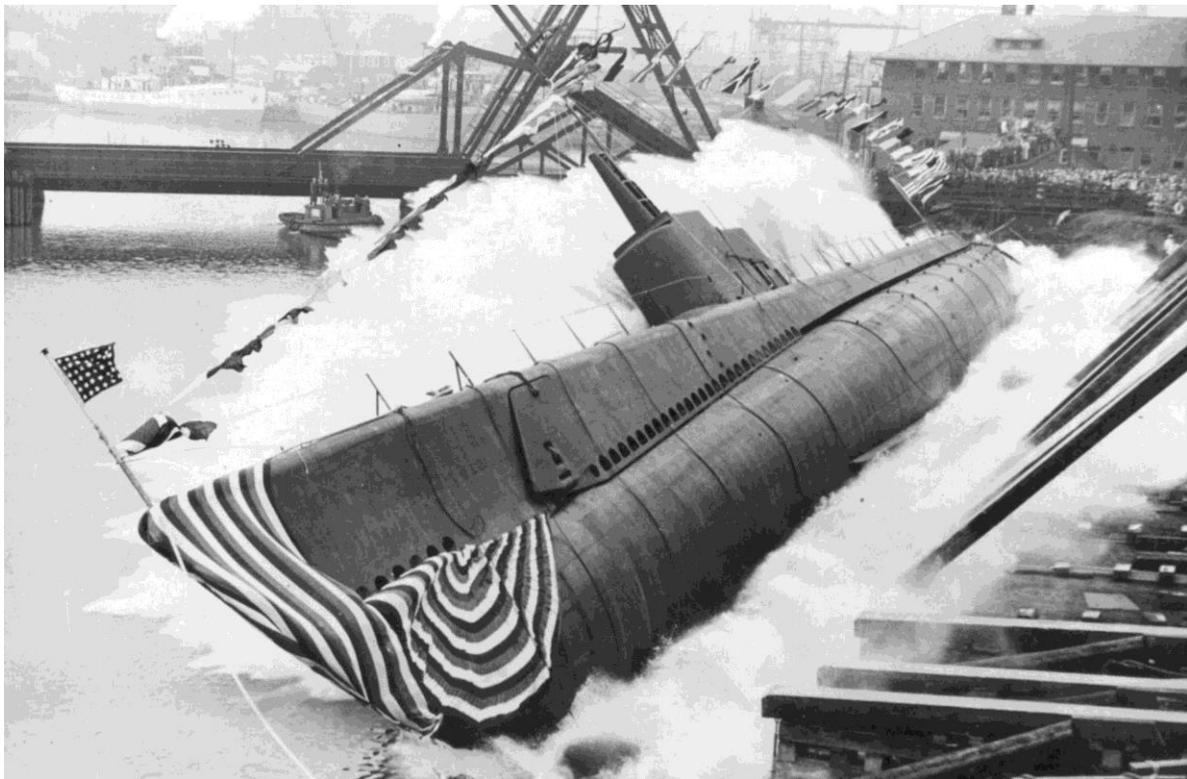
The first submarine to be finished and ready for launch was the *PETO*. For many reasons, the *PETO* was a groundbreaking experience for Manitowoc Shipbuilding, and the rest of the world. The *PETO*'s keel was laid on June 18, 1941. On April 30, 1942 the *PETO* was successfully launched into the Manitowoc River. This made it the first

³⁴ Hakala, "Voyage of Vision," 63.

³⁵ Hakala, "Voyage of Vision," 64.

submarine built on the Great Lakes for the United States Navy.³⁶ Another reason why the *PETO* carried so much importance to Manitowoc and the world is because it was the first submarine to ever be side launched in United States Navy history, which was a tough task to accomplish due to the depth and size of the ships. A week after the launch, a picture was run in LIFE magazine as “Picture of the Week.” This made Manitowoc famous throughout the United States as a major shipbuilding company. Below is a picture of the *PETO*’s side launch.

Figure 1: Side Launch of *PETO*



Source: <http://navsource.org/archives/08/265/0826501.jpg>

³⁶ “75 Years of Growth and Diversification,” 28.

The *PETO* held high regards because it was the first submarine built by Manitowoc Company. Rear Admiral William T. Nelson stated, "Certainly those of us who commissioned and served on Manitowoc-built boats will swear that no better submarines were built anywhere. My personal endorsements of the product is that when I returned to the states to put another sub in commission after four patrols on *Peto*, I specifically asked for, and pulled all possible strings to get, another boat built here. That was *Lamprey*, the 22nd boat, which my wife had the hone to christen."³⁷ Statements like this one made by Nelson help to show how much Manitowoc's ships were admired by the people who helped to operate them during World War II.

The *PETO* was also the first submarine to run its sea trials in Lake Michigan. Sea trials were the testing done before a ship could be used. This was a condition that was created after the attacks on Pearl Harbor, so the submarines could be immediately put to use when they hit the Pacific Ocean.³⁸ As the *PETO* returned to Manitowoc's ports the day after its sea trial, it had a broom attached to her periscope, which signaled that she had made a clean sweep in the trials. There was also a navy E flag on the ship, which signified that Manitowoc Shipbuilding Company was awarded for excellence in performance under its contract. There was also a star on the flag, which signified that

³⁷ Hakala, "Voyage of Vision," 70.

³⁸ Hakala, "Voyage of Vision," 74.

this was the second award given to Manitowoc.³⁹ On November 21, 1942, Manitowoc turned the *PETO* over to the United States Navy.

The ten submarines starting with the *PETO* were not the only contracts awarded to Manitowoc during World War II. The entrance of the United States into the war resulted in the submarine program expanding tremendously. The program expanded so instead of only ten submarines being built, twenty-eight would, and in the same amount of time. The reputation for the high quality for these types of vessels that Manitowoc produced can be commended to all that participated in building these vessels. This numbered about 7,000 workers at its peak.⁴⁰

In the early months of 1942, Charles West was called to report to Washington again for a meeting with the Navy's Bureau of Ships. The Navy made a request at this meeting. They wanted Manitowoc Shipbuilding to design and build landing craft. The landing craft would be 112 feet long, and 550 tons heavy. These LCT's (Landing Craft Tank) ferried tanks and other heavy materials to shore. This program was known to be so important, that it carried a triple A priority rating, and an overriding Presidential Directive. Without hesitation, West agreed to the contract and started the design of the boats.⁴¹

³⁹ Ibid.74.

⁴⁰ "Fifty Years of Problems and Accomplishments," 16.

⁴¹Hakala, "Voyage of Vision," 77.

In the contract, West agreed to do a number of things. First, he agreed to build thirty-six vessels at Manitowoc. Second, he agreed to serve as a lead yard for over 400 more LCT vessels. Manitowoc was to provide the plans, templates, materials, and training for all of these boats as well.⁴² This type of confidence in Manitowoc Shipbuilding by the government is another way that Manitowoc is seen as one of the top shipbuilders in all of the United States.

The contract for the thirty-six vessels was very similar to the previous war contracts that had been agreed upon. The Navy estimated that each vessel would cost approximately 100,000 dollars. Manitowoc built them for a cost of 65,000 dollars.⁴³

The program was completed well ahead of time, and at a sixty-two percent ahead of estimated cost. The navy asked again on Manitowoc to be the head of another major contract. This was again for LCT's, but this time for a new more advanced type. Manitowoc helped to produce 1,000 of these new LCT's, and all at other plants than their own. They would have done more of the production at their own facility, but Manitowoc had already been busy with submarines when they received yet another contract by the navy to build twenty more submarines, on top of the twenty eight they already agreed to build. These submarines were much more advanced than previous

⁴² Hakala, "Voyage of Vision," 77.

⁴³ "75 Years of Growth and Diversification," 29.

submarines. These new submarines were called the Balao-class boats. They had heavier hulls, and thicker steel to enable deeper dives.⁴⁴

Another contract that Manitowoc landed was in 1945. They were to build ten small tankers for the use in coastal and inter-island service in the Pacific. In this contract they also fabricated the steel hulls for ten additional vessels that would be built in different shipyards.⁴⁵

A total of twenty-eight submarines were built in Manitowoc for the United States Navy. The first was launched in 1942, the *PETO*. Between all of the Manitowoc ships, a total of 132 Japanese ships were sunk. Only four of Manitowoc's twenty-eight submarines were lost during the war.⁴⁶ Manitowoc was a major contributor to the Navy's fleet of ships, helping to produce not only the twenty eight submarines, but also many other ships that sailed for the navy.

⁴⁴ Hakala, "Voyage of Vision," 78.

⁴⁵ *Manitowoc Shipbuilding Company, Engineering Works, Fabricating Works, Equipment works, Manufacturing Works*. Manitowoc Company Documents Box 57, Folder 9, 17.

⁴⁶ Ed Prigge, and Mathey J. Prigge. *Images of America: Manitowoc*. Arcadia Publishing. Charleston, South Carolina. 2014, 70.

VI: Comparison

There were many other companies like Manitowoc Shipbuilding that received military contracts, or a form of government help because of the war. Unirol Tire Company in Eau Claire, Wisconsin, known as the Gillette Rubber Company in the 1930s, was no exception.⁴⁷

Gillette Rubber Company was hit hard by the Great Depression, much like many other companies during the time. In 1930, the company had to drop its employment down to 1,600 workers with annual payroll of 2,000,000 dollars. The company continued to do poorly until 1935, when it had its first net profit since the start of the depression. In the years following, Gillette added four buildings as production started to increase as the depression started to dwindle. In 1937, the company was back up to 2,500 workers. In 1940, U.S. Rubber took over the company from Gillette Rubber Company. The company's new name became the United States Rubber Company, Gillette Tire plant.⁴⁸

Much like the Manitowoc, the United States Rubber Company had to help with the war effort. When the United States entered into World War II, the government stopped tire production and converted the factory into a small-arms ammunition

⁴⁷ John Baptiste DeRosier, *Nothin' But a Machine: A History of the Eau Claire Rubber Workers on Strike*. 1988. University of Wisconsin-Eau Claire Archives, 12-13.

⁴⁸ *Ibid.* 12-13.

production facility. This conversion started in July of 1942. By August, the plant began producing ammunition.⁴⁹

The factory had to make many changes in order to make this transition work. All of the tire making machinery was dismantled and replaced with ordnance equipment.(page 14 Derosier) The war created a boom of employment for the tire making company. At the start of production, there were 1,690 employees. By September, that number has gone up to 3,941. At the end of November of that same year, there were 5,908 workers employed at the plant.⁵⁰ There were 6,200 workers at its height, which is much higher than that of 2,500 workers during the tail end of the depression. Late in 1943, a surplus of small arms ammunition occurred, and a need for rubber tires was created. A year later, the plant was ready to produce tires again.⁵¹

Uniroyal, much like Manitowoc Shipbuilding Company, received government contracts. By looking at this small snapshot of Uniroyal's adaptation to World War II contracts, it is easy to see how so many cities in the United States had the opportunity to thrive due to the war efforts.

⁴⁹ Ibid. 12-13.

⁵⁰ Nicole Sanborn, *"From Tired to Ammunition:" War Production at the Eau Claire Ordnance Plant, 1942-1943.* University of Wisconsin-Eau Claire Special Collections. History 489 Paper, 21.

⁵¹ DeRosier, *But a Machine*, 14.

VII: Post Submarine

West knew that eventually the need for submarines would dwindle. He also knew from experience of the after math of World War I when they had built ships for the Navy as well, that there was no doubt that there would be a recession after World War II. West decided that he would plan ahead and do everything possible to avoid the downfalls of a post war economy.

The first thing that West did was create a postwar planning department. This planning department was to do research on one main product, the domestic freezer, where people could have a freezer in their own home. West knew that this could be the next big thing for Manitowoc, and he made all arrangements to make it happen. He planned on using Boiler Works for the location, and the company would move boiler works, the cement mill, and paper mill to the shipyard after the war. West then made the initial investment of 300,000 dollars to install painting and baking equipment, as well as to purchase machinery, and to pour the concrete floors. In order to avoid direct competition with other freezer makers, Manitowoc was going to build larger cabinet designed freezers.⁵²

These efforts looked like they would pay off when in 1944; the navy canceled the construction of ninety-one submarines throughout the United States. The navy allowed

⁵² Hakala, "Voyage of Vision," 84

for hulls that were already being built to be able to be completed, but no new keels would be constructed. The stoppage of submarines caused many Manitowoc citizens to become nervous about possible layoffs, but West knew that this may not be the case.⁵³

. Even though the building of submarines was put to a halt, did not mean that the war was over. In January of 1945, the United States Army asked for Equipment Works, a part of Manitowoc Company, to bid on a manufacturing of steel, watertight .50 caliber ammunition boxes. Manitowoc chose to bid on the largest contract at 287,500 boxes. At a quote of four dollars per box, they won the contract for 1,600,000 dollars.⁵⁴ This kept Manitowoc booming until West's post war ideas could come to life.

The end of the war marked the end of a great time for Manitowoc Company. It did not take long for the post war recession and lack of need for ships to hit Manitowoc's economy. The average war-production workforce was approximately 3,600 workers and was 7,000 at its highest level. By 1946, that number was cut down to 1,900 employees. This was still much larger than before the war, when it was at 627, but it was still a large hit that the city had to take.⁵⁵ Manitowoc Company was to survive though, and that is something that could not be said of many other Great Lakes shipbuilding companies. There are only a few reasons for this survival. The first is that

⁵³ Hakala, "Voyage of Vision," 85

⁵⁴ Ibid. 85.

⁵⁵ Hakala, "Voyage of Vision," 89-90.

Manitowoc Company did not seek outside investment like many other companies, and employees and their families owned approximately seventy percent of the common stock in Manitowoc Company. Also, West made the wise decision to diversify his business beyond only shipbuilding, and his employees were skilled enough to develop and build other things, and they did not have to rely on shipbuilding to stay thriving as a company.

VIII: Conclusion

The city of Manitowoc has taken much pride in their deep shipbuilding roots, and Manitowoc Company still carries a vital role in the community today, making cranes and ice machines. Companies, as well as the local public high school in Manitowoc, have made their mascot and their image, "The Ships." If it was not for two men, Elias Gunell, and Charles West, who made the effort to take Burger shipyard, and make it a large part of Manitowoc. One can only speculate what Manitowoc would be like today.

By examining Manitowoc Shipbuilding Company and all that it has done since its founding in 1902, one can only see that Manitowoc has not only survived, but it has boomed. This was shown by looking at the city of Manitowoc's profile and how it had

evolved largely because of shipbuilding and the government contracts that were awarded to Manitowoc Company during World War II.

Bibliography

Secondary Sources

DeRosier, John Baptiste. *Nothin' But a Machine: A History of the Eau Claire Rubber Workers on Strike*. 1988. University of Wisconsin-Eau Claire Archives.

Fifty Years of Problems and Accomplishments: 1902-1952, Manitowoc Shipbuilding Co., Manitowoc, Wisconsin. 1952.

Hakala, William, *Voyage of Vision: The Manitowoc Company, A Century of Extraordinary Growth*. Manitowoc, Wisconsin: Lakes County Press, Waukegan, Illinois. 2002.

Prigge, Ed, and Prigge, J. Mathew. *Images of America: Manitowoc*. Arcadia Publishing. Charleston, South Carolina. 2014.

Sanborn, Nicole. *"From Tired to Ammunition:" War Production at the Eau Claire Ordnance Plant, 1942-1943*. University of Wisconsin-Eau Claire Special Collections. History 489 Paper

75 Years of Growth and Diversification: 1902-1977, The Manitowoc Company, INC The Manitowoc Company, INC. Manitowoc, Wisconsin, 1977.

Primary Sources

Ancestry.com. *1940 United States Federal Census* [database on-line]. Provo, UT, USA:

Ancestry.com Operations, Inc., 2012.

League of Nations Treaty Series, vol. 25, pp. 202–227.

Manitowoc Shipbuilding Company, Engineering Works, Fabricating Works, Equipment works, Manufacturing Works. Manitowoc Company Documents Box 57, Folder 9.

Merchant Marine Act, 1936. <http://www.usmm.org/mmact1936.html>

The Wisconsin Blue Book 1931. Compiled by the Wisconsin Legislative Reference Library.

Democratic Printing Company, Madison, Wisconsin. 1931, 611.

The Wisconsin Blue Book 1942. Compiled by The Wisconsin Legislative

Reference Library. Published Biennially by the State of Wisconsin. 1942, 434.

The Wisconsin Blue Book 1952. Compiled by the Wisconsin Legislative

Reference Library. Published Biennially by the State of Wisconsin. 1952, 476.

