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The Fabrication Industry
Past, Present & Future

History of the World Fabrication Industry since WWII

In the post WWII era, the American fabrication industry was supreme. Old line firms such as Wyatt Boiler Works, Smith Industries, Allied Industries, Beaird Industries, Delta Southern, Belmas, Graver Tank, Mosher Steel, Hahn and Clay and others dominated the international pressure vessel market.

- With the destruction of major plants in Europe and Japan, there were few challengers to the dominance of the American Fabrication Industry in the world. Wages were low, steel was plentiful and inexpensive. An abundant supply of returning servicemen filled the ranks of shop workers ready to go.

Prosperity and Growth

During the 1950's, growth of the energy sector was slow but steady. Average shop wage rates were about $2.00 an hour. It was not until the late 1960's that refinery and chemical plant construction began to increase. By 1972, shop wages were still only about $4.00 an hour. In 1972, the base price for mill steel plate was $7.15 per cwt. By 1976, it was above $20.00. What happened?

The Arab Oil Embargo

- The Arab Oil Embargo changed the face of the world economy forever. In October 1973, the price of a barrel of light crude was $3.39. A year later, it was above $11.00. This 320% increase in the price of crude oil produced shock waves that spread throughout the world economy for the next decade.

The Energy “Boom” of the 1970’s

- The high price of crude oil set off an explosion of activity in the energy industry. Drilling and exploration expanded at an unprecedented rate. The fabrication industry experienced a tremendous boost in requirements from its clients and built new facilities to keep up with demand. It was during this time that we all encountered the phrase “Price in effect at the time of shipment”

The Energy Boom

- During this time, the industry experienced its best and most dramatic heyday. Every firm in the supply chain prospered. Shortages of steel, allocations by the mills and much higher prices were commonplace. Many of us thought that the boom would go on forever. The downside of this boom was a high consumer inflation rate of more than 12-14% per year.

The End of the Boom

- The boom lasted until 1980, when new energy saving technologies, fuel efficient vehicles and conservation began to make inroads into energy demand. In 1979, Wyatt Boiler Works had 1370 shop employees in its Houston plant, the largest pressure vessel fabricator in America.

The Bust of the 1980's

- In 1981, the rig count began dropping and crude oil, with an OPEC set price of $34.00 a barrel, became a glut on the market. The world price of crude tumbled and by 1986, was trading as low as 11.80 a barrel. In 1986, you could buy a gallon of regular gasoline for 66 cents.

The Bust of the 1980's

- From late 1981 until 1989, the fabrication industry took a huge hit. The big players from the post WWII era collapsed or underwent huge transformations. Of the firms named earlier, only General Welding is still around, and in a much smaller size and with only a fraction of the employees of the 1970's. The 1980's were a killer for industry.

Growth of the 1990's

- By 1990, business was improving but much more slowly than in the 1970's. The bust of the 1980,s reduced capacity and removed about 70% of the fabricators that were in business two decades earlier. Those that remained were much more "lean and mean" than in the extravagant days of the 1970's.

Weak Energy Prices

- Crude prices in the 1990's moved sideways, drifting in the upper teens to low twenties per barrel. Prices took a severe drop in 1998 because of the "Asian Flu".

- What was the "Asian Flu"?

The “Asian Flu”

- This was the temporary collapse of the economies of the five Asian “Tigers”, South Korea, Taiwan, Thailand, Hong Kong, and Singapore. Crude prices dropped to $10.93 a barrel in February of 1999. At this price, nobody in the energy food chain could make money. Almost all drilling and exploration activity halted.

Slow Decline in the Fabrication Industry

- Activity in the fabrication industry drifted downhill from 1998 until it bottomed out in late 2003. Several more old line fabricators went out of business and capacity once again took a big hit. Many firms attempted to develop new product lines but with little success.

A Much Needed Boost

- In 2004, steel prices took a huge jump, catching many of us by surprise. By the end of 2004, plate prices for SA-516-70 were triple what they had been in early 2003. Crude oil was above $36.00 a barrel in early 2004 and finished at $45.00 a barrel by the end of the year. Improved profits by the energy industry and the EPA mandate to reduce the sulfur in gasoline and diesel began to generate business for the industry.

Cleaner Fuels

- Refineries were mandated to spend Billions of dollars to reduce sulfur levels in gasoline and diesel. This produced a very healthy boost for the fabrication industry that lasted several years. With higher steel prices, volumes and margins soared from 2004 through 2008, giving fabricators a much needed boost from the frugal times of a decade ago.

Crude Prices Soar

- As crude approached it peak in July 2008 of $147.00 a barrel, the consequences of unrealistically high prices became apparent. Corn and wheat had become so expensive that the developing nations could not feed their poor.
- Truckers were paying over $5.00 a gallon for diesel and staging protests over the high cost of fuel. To fill up the family SUV was costing more than $70.00.

The Energy Bubble Bursts

- In a time of full employment and a robust economy, we gripped about the high cost of gasoline, but paid it anyway.
- The world was not ready for $150.00 crude oil. This stratospheric level was mainly due to oil speculation rather than demand and the price of crude collapsed in the third quarter of 2008, right along with the stock market and your 401K.

The Bubble Bust

- The sub prime lending crisis spilled over into the regular economy and created a credit crunch in the late summer of 2008. The spiral downward has eliminated millions of jobs, drastically slashed retirement accounts and contracted the world economy. Even though the energy industry and its suppliers were not as hard hit as some other industries, many plant expansions have been cancelled and others delayed.

Our Future Prospects

- With the bottoming out of our economy, is recovery at hand? The fabrication industry has always been a lagging industry. Declining profits at our energy firm clients is trickling down to our level. It is difficult to maintain a strong level of profitability when you clients are not making much money.

Our Overseas Competition

- At the conclusion of WWII, the economies of Western Europe and Japan had been destroyed. Their steel and manufacturing industries had to be rebuilt from scratch. They adopted new technologies and began to rebuild their basic industries.

America's Older Plants

- In the 1960's and 70's, America relied on plants and technologies from the WWII era for making steel and manufacturing fabricated products. After the bust of the 1980's, the steel industry lost a huge amount of its inefficient capacity through mergers, bankruptcies, and restructuring.

World Wide Steel Industry

- The new steel mills of Western Europe and Japan along with new mills in Eastern Europe, South Africa, India, and China began to make an impact on the world supply and pricing of carbon steel plate and other basic steel commodities.

South Korean Firms

- During the 1990's, South Korea zeroed in on the world pressure vessel market. With strong governmental support, South Korean firms began winning large contracts for large and sophisticated pressure vessels, such as Reactors and Clad Columns, while capacity to fabricate these items in the U.S. was in decline.

South Korean Firms

- Western Europe, particularly Germany and Italy, had developed advanced fabrication facilities and were supplying all of Europe's domestic needs and most of the requirements from the Middle East.
- A review of export records from the World Bank indicates that in 2001, South Korean firms furnished over half of the pressure vessels, exchangers, and other fabricated products for *New Construction Projects* around the world as measured in U.S. dollars.

South Korean Firms

- After some very notable quality problems in the Korean vessels furnished to the U.S. in the early part of this decade, the domestic energy companies decided that American fabricators were not so expensive after all.

Western Europe and Japan

- Western European and Japanese firms make very high quality products, but their unit cost of labor is very high. South Korea has less expensive manufacturing costs, but still has quality problems. The new firms in the world fabrication marketplace are in India, China, Malaysia, Thailand, Taiwan and Eastern Europe.

The Far East Competition

- Having recently returned from trips to Malaysia and China, I have observed that their focus is on Asia, rather than the Western Hemisphere. The economies of India and China, with 40% of the world's population, are growing at impressive rates. Currently, those economies are absorbing the fabrication capacities of both of those countries.

For the Future

- I am predicting that neither China nor India will make a significant impact on the vessel and exchanger market in the U.S. anytime soon. The steel industry in each of those countries has not yet pursued the manufacture of high quality pressure vessel steel such as vacuum degassed HIC quality plate. Even though China and India have significant labor advantages over the Americas and Western Europe, their access to quality plate, pipe and forgings is limited.