Joseph Oat C

Delivering Excellence Since 1788

Originally founded in 1788, Joseph Oat was purchased in 1966 by Maurice Holtz and Marty Kaplan, two men determined to maintain its family-owned tradition. At that time the company was mainly supplying the petrochemical industry, but with the dawn of the nuclear age came the opportunity to expand into an exciting new field. Today the next generation of these two families has taken over the helm, and they proudly continue to build on its long history of providing quality products from its Camden, New Jersey location.

By Joanne McIntyre

Ron Kaplan, President of Operations and Michael Holtz, President of Engineering, explain some of Joseph Oat's recent history. "The advent of the commercial nuclear business was an opportunity to utilize very similar technology to that used for the petrochemical industry, upgrade our entire QA system and sell to an entirely new industry," explains Mr. Kaplan. "It was a very successful strategy with our safety related heat exchangers and pressure vessels having been installed in over 90 nuclear power plants around the world. During the hey-day of the nuclear industry, all of the PWRs and many of the BWRs in the US had Joseph Oat safety related equipment and heat exchangers installed. Despite the stagnation of the nuclear industry following the Three Mile Island accident in 1979, we chose to maintain our QA system and were kept busy with retrofit and replacement activities. For example, there has been a need for plant life extensions, which go beyond the life of the original equipment, and Joseph Oat is able to refurbish this equipment with more corrosion resistant materials."

Joseph Oat possesses the ASME Sec. III Nuclear 'N' Stamp for Class 1, 2, & 3 equipment, and is one

A welder prepares a 6 moly stainless steel nuclear component

of the very few companies who have continuously maintained this certification since 1966. Joseph Oat's QA Program has also been audited by NUPIC, the Nuclear Utilities group, and is therefore qualified to provide safety related equipment requiring compliance to ASME NQA-1 quality assurance requirements to all nuclear operating plants in the United States.

Diverse and global supplier

In addition to power plants, we are active in the areas of nuclear spent fuel and are a major supplier of radioactive waste storage containers, explains Mr. Holtz. "These containers often require ASME Sec III 'N' stamp and/or NQA-1 quality assurance programs. They are precision built to very exacting specifications and require specialized fabrication and testing techniques. We've successfully completed several very large projects for shipment to major U.S. waste depositories and defense laboratories, with the Department of Energy being one of our major clients," says Mr. Holtz. "While these activities helped to increase our nuclear sales, there was a period in the 1980s when we were working with many of our petrochemical customers again. However the advantage of manufacturing heat exchangers and pressure vessels is that there are many different industries you can serve and we are flexible enough to be able to do that. Whether it's the nuclear business, fossil power, petrochemical, or pulp and paper; we have the flexibility and skills to serve these industries."
While all of Joseph Oat's products are manufactured in America it has supplied products to power plants around the world. "Our equipment has been installed in other countries via reactor manufacturers such as Westinghouse and General Electric. For example we installed a tremendous amount of equipment in the Lungmen plant in Taiwan. In addition, our products are installed in the former Yugoslavia, England, Korea, and a few other places" explains Mr. Holtz.

Upgrades/Uprates

As the nuclear fleet has aged Joseph Oat Corp has benefitted from the trend to upgrade for greater efficiency and extend the life cycle of existing plants. The company supplies power plants with upgraded and replacement equipment, new equipment which is mandated by the Nuclear Regulatory Commission and engineering services including heat transfer analysis and seismic analysis.
"We've been involved in replacing a lot of heat exchangers for life extension and power uprate projects", continues Mr. Kaplan. "In many cases components are replaced not because they have worn out but because they need more service. For example, time is a very important factor when

Legacy clean up

Joseph Oat is heavily involved in 'legacy clean up' activities for the US Department of Energy. In 2007 it was awarded one of the first fabrication contracts for the Mixed Oxide (MOX) Fuel Fabrication Facility at the Savannah River Site in South Carolina. The order involved the design and fabrication of 36 special-use stainless steel pressure vessels. The MOX program is part of the nuclear non-proliferation agreement between the US and Russia to dispose of nuclear weapons materials. MOX fuel is a blend of oxides of plutonium and uranium, which behaves similarly to the low enriched uranium used in commercial reactors. In total, around 34 metric tons of surplus weapons-grade plutonium will be converted into MOX fuel to be used in power plants over the next 15 years.
Another arena where the company is employing its expertise is the clean up of the Hanford site on the Columbia River in Washington State. "We supply tanks and storage containers which are used to process waste as part of the river protection project there, and multi-canister overpacks for waste which needs to be transferred from legacy containers."

the spent fuel pool is used during an outage. Therefore larger spent fuel pool heat exchangers are installed to increase the cooling capacity and speed and thereby reduce outage time."

In the last decade, Joseph Oat has added numerous engineered products to its product line, including safety related filters, strainers, flow restriction devices, specialty weldments, structural assemblies and casks. With 200 tons of lift capability and 60 ft. under the crane hook, the company can handle extremely large fabricated items.

"As an ASME Section III qualified Material Supplier, we're capable of providing materials, machining services, parts and weldments for utilities that require replacement for equipment previously fabricated by others," says Mr. Kaplan. "We can reverse-engineer equipment to meet specific performance criteria within the spatial limitations of existing buildings and interferences caused by other equipment. Another important capability that we have in-house is redesigning equipment around what a previous manufacturer has made, for instance with air-coolers, filters, strainers and sometimes heat exchangers. Often the original manufacturer is no longer in business so we step in to solve the utility's equipment obsolescence problem."

From left to right: Michael Holtz, President of Engineering; Ron Kaplan, President of Operations; Justin Kaplan, General Manager.

Strong family philosophy

"As a family owned company we can concentrate on taking care of our employees and on customer service without being concerned about shareholders," explains Mr. Kaplan. "We're not under any pressure to maintain a stock price, so we can concentrate on the service part of the business and on making the business comfortable for our employees. That's what's important to us. We've had families working here literally for generations, both in the shop and in the office. I started working in the company fulltime in 1971, although I worked summers before that; and my son followed me into the business 10 years ago, so we have 3 generations of the family active in the business."

Being family owned also allows the company to take a long term approach to planning. Significant investments are currently being made to improve the cutting and plate rolling capabilities and the general infrastructure of the shop. As much of the work the company is involved in calls for close attention to contamination issues, it has constructed two completely enclosed world-class clean rooms with a total shop space of 20,000 sq. ft. (1860 m^2). Each of these rooms has access to 200 ton capacity cranes and is fitted with independent HVAC temperature controlled environments. Air is filtered 6 to 8 times per hour, and positive pressure is maintained to keep out contaminants. Special equipment is capable of checking for the presence of free iron particulates for work requiring special atmospheric monitoring and custom fabrication procedures assure cleanliness and lack of contamination in the fabricated product.

Canisters for the storage of radioactive waste, fabricated as part of the company's 'legacy clean up' activities with the US Department of Energy.

Proven history of excellence

"We're not afraid to price our product realistically because we do a very good job," smiles Mr. Holtz. "Customers seek out our products because we go beyond what other fabricators do. We offer a very strong engineering department and we offer longevity; in the nuclear business utilities are looking for equipment to have a 40 year or more design life, and when we say something will last this long, we can prove that it really will. There are very few companies who can say that."

"Around the world you see new suppliers trying to enter the market. Frankly anybody can buy some equipment, put it in a shop and say they are in the nuclear business. It's not difficult; they only have to build one prototype for ASME to get qualified. But providing top service year after year, having the technical ability and the proven equipment that we have, is another story. A lot of these new companies will come and go but we are certainly not afraid of competition."

"We intend to remain a major source for products and services for existing nuclear plants, and we will be an important source for equipment and services for the new plants which will be constructed to meet growing energy demands and reduce dependency on foreign energy sources."

Joseph Oat manufactures ASME Section III and Section VIII Component Cooling Water (CCW) Heat Exchangers for nuclear utilities from a variety of tube materials, including copper nickel, 6 moly stainless steel and titanium. A large CCW HX is shown completing a visit to the paint booth.

A high nickel alloy pressure vessel being prepared for the US Department of Energy.

Facts & Figures

Name:	Joseph Oat Corporation
Founded:	1788
Employees:	100
Headquarters:	Camden (NJ) USA
Key markets:	Nuclear power generation, rad-waste, fuel storage, petro-chemical
Products:	Heat exchangers, pressure vessels, filters, strainers, storage casks