Part V:

Post-War Progress

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When the United States entered World War II in 1941, the country was still struggling to emerge from the Great Depression. When the war ended in 1945, many people wondered if the sudden suspension of massive government spending on military programs would result in a return to those bleak economic times.

Instead, consumer demand powered a decade and more of economic expansion and prosperity. Returning servicemen and women bought cars, homes, furnishings and appliances. They married, and the new families produced the "baby boom" and a corresponding increase in demand for consumer goods. Enjoying the freedom and mobility of the family car, they moved out of the cities into new suburbs. The creation of a nationwide network of interstate highways, together with the availability of commercial and residential air conditioning, contributed to the growth of "Sun Belt" cities such as Atlanta, Miami, Dallas, Houston and Phoenix.

Many cities in Europe and much of the economic infrastructure on the continent had been badly damaged or destroyed by the war. Essentially untouched by war, America industry was soon producing half of the world's industrial goods. American recovery programs such as the Marshall Plan provided vast amounts of economic aid and material for the reconstruction of the region. The end of the fighting in 1945 saw the U.S. military contract, but it remained a large and active force. With the "Iron Curtain" dividing post-war Europe, American forces remained in position there, and others were stationed in Asia. Although the situation in Europe evolved into a "Cold War," the United States was engaged in active warfare in Korea from 1950 to 1953. American industry supplied these forces and contributed to the ongoing development of new military technologies and weapons.

By 1951, the U.S. economy had grown 50% since the end of the war, and by 1960 it had doubled in size. Widespread growth in revenues and profits fueled a trend toward consolidation, with large, aggressive firms acquiring smaller competitors. Elliott grew and prospered by supplying the steel mills and refineries operating at full capacity to meet the demands of an increasingly mobile consumer economy. But before the end of the 1950s, Elliott Company would be bought by a larger corporate enterprise.


Don't Kill Our Nuts
SHUTDOWN IS LIFTED!!
Rolls on Strikers to Return

Strike

With the end of the war, Elliott was flooded with orders. Bookings in 1946 increased 91 percent. Unfortunately, few of these orders left the factory. Shipments for the year actually fell 53%, the backlog ballooned, and the company reported is first loss since 1939. William A. Elliott noted that, "In many respects, the year 1946 presented more difficult problems than the war years."

The primary cause of these difficulties was the first strike by Elliott's employees represented by the United Steelworkers of America (USW). Relations between Elliott Company and its unionized employees were generally good, but Elliott was caught up in a tidal wave that engulfed companies across the United States. No year, before or since, saw so many strikes, so many people on strike, or so many industries affected by strikes, as 1946.

The root of the labor conflict of 1946 was the no-strike pledge that many labor unions took during the war. Potential disputes over working conditions, wages and benefits were tabled in the interest of victory. As soon as the guns fell silent, the strikes began. In September 1945, 250,000 petroleum workers and coal miners struck. In October, 150,000 lumber workers, teamsters, and machinists joined them. In November 1945, 250,000 members of the United Autoworkers went on strike against General Motors.

In January 1946, more than 1,000,000 workers went on strike, including the 750,000 members of the USW, with Elliott's labor force among them. The central issue was money. The steelworkers had not received a raise since 1942, and they were seeking an additional $0.25 an hour to make up for inflation. The previous major steelworker strike in 1919 had seen brutal and bloody battles between the strikers and the police, militia, and company thugs. The 1946 strike was peaceful, with even President Truman encouraging the companies to settle. After two months, Elliott and the other companies struck by the USW agreed to a pay raise of 18 ½ cents an hour.


FOR
BALANCING
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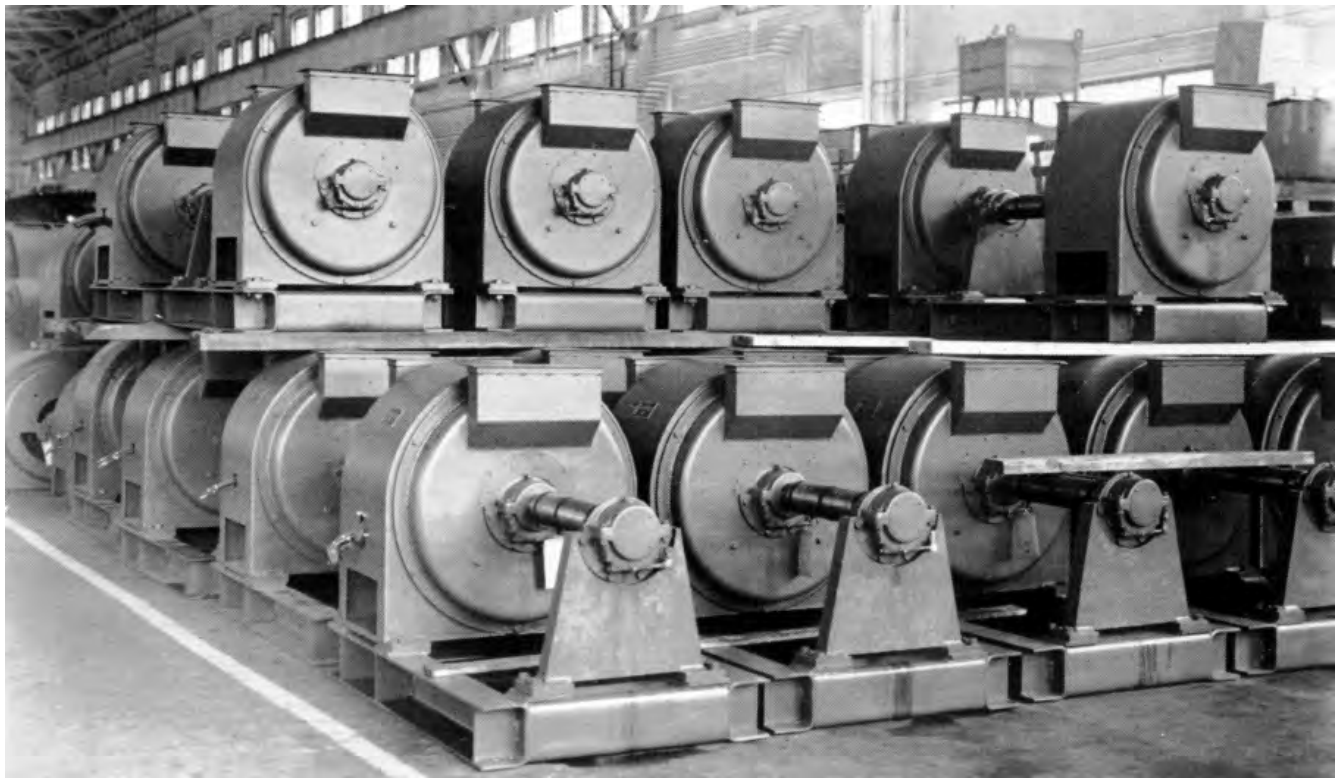
Prosperity and growth

Over the next ten years, Elliot Company enjoyed a period of strong growth. Following the resolution of the steelworkers strike, shipments soared 90 percent in 1947. Employment was 3,000. Shipments continued to increase, reaching a record high in 1952. Employment reached a record high of 4,200 in 1951.

During these years, Elliott's employees gained a number of fringe benefits including paid vacation, hospitalization and life insurance. A flyer for the first Family Day in Jeannette, held in October, 1948, promoted the benefits of employment at Elliott, including three weeks of paid vacation after 25 years of service. A new contract with the USW locals in 1950 provided for pension and health benefits. Union members retiring at age 65 received an annual pension ranging from $1,200 with at least 15 years of service to a maximum of $6,000 with 25 years of service. Health insurance was also made available, with premiums split evenly between the company and the employees. Salaried workers received similar benefits.

To support and maintain its growing business, Elliott Company required additional facilities and capital. A new turbocharger facility, the present day Building 45, was constructed in Jeannette in 1947. In 1952, 40,000 square feet were added to the Jeannette plant's foundry operations. The additional space was needed for repetitive casting production, used primarily in turbochargers and electric motors. By 1956, the foundry employed 184 persons who were melting 7,000 tons of metal per year to produce 4,400 tons of finished castings. The foundry was located at the site of the present day Rotor Division, Building 50. A large storage building was also completed in 1952, as was a major shop and office building at the north end of the plant, today's building 48. To raise capital for this expansion, Elliott Company issued more shares to the public in 1947 and again in 1952. That year shareholders outnumbered employees for the first time – 5,158 versus 3,950.




GRAND STAND
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CUMMINS DIESEL
special
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Products and markets

As World War II drew to an end, Elliott began designing a replacement for the "Y" line of single-stage turbines. The Y line was introduced in 1928 as a replacement to the Kerr Turbine "P" line of single-stage impulse turbines. Over the next twenty years, Elliott sold thousands of Y-line turbines.

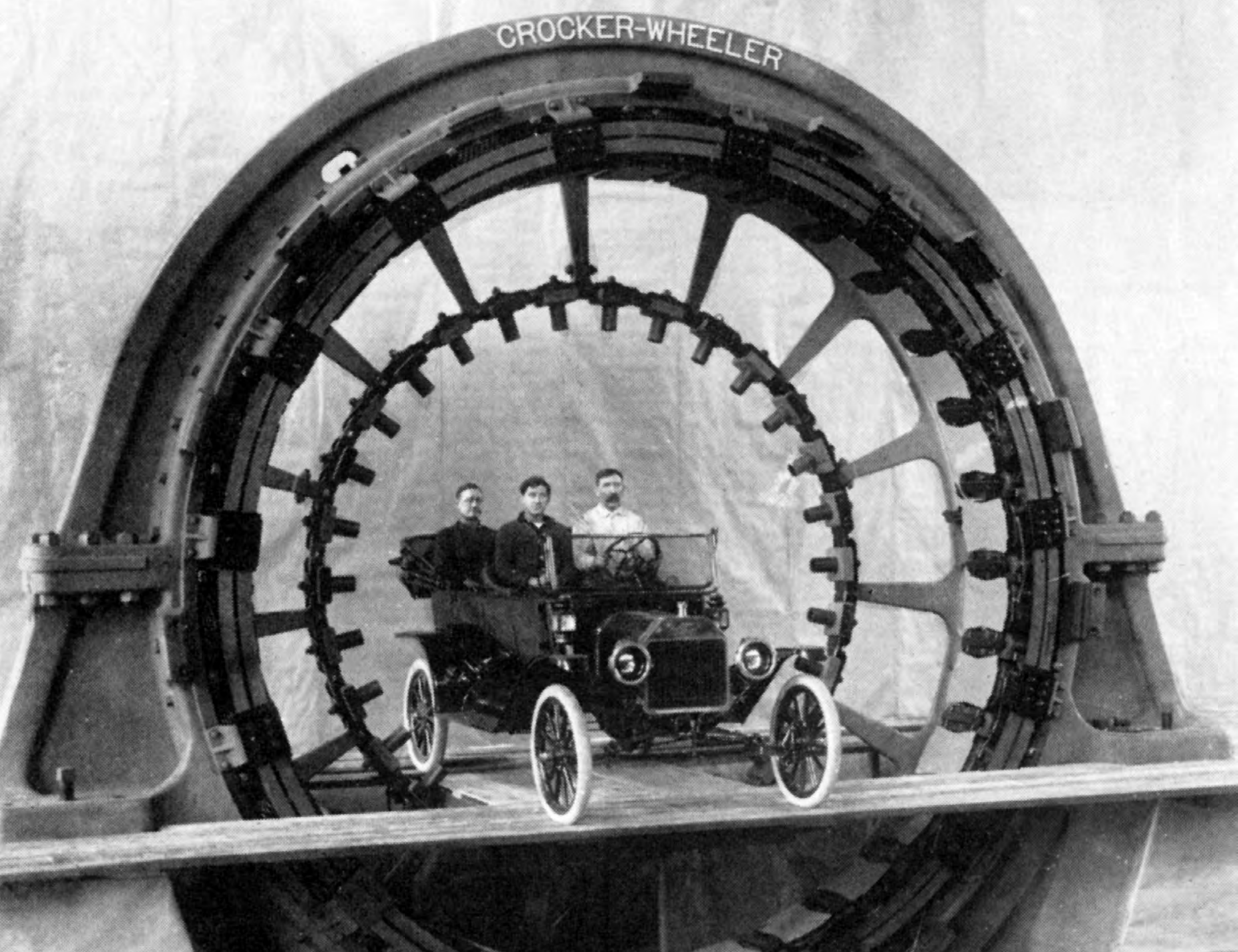
In 1948, Elliott introduced its new "YR" turbines. The YR line was available as eight turbine types on five frame sizes – A, B, C, D and E. The initial YR line produced up to 2,000 HP and operated at up to 6,000 rpm and 250 psig back pressure. YR turbines quickly became one of the most popular products Elliott has ever manufactured, used to power fans, blowers, pumps, generators and countless other types of industrial equipment. By 1953, Elliott was shipping more than 1,000 YR turbines a year. Still in production today, the YR line has been refined and improved over the years, and more than 40,000 of these versatile, reliable machines have been sold.

The post-war years saw a continuation of the sale of turbine-generator sets to public utilities. In 1947, for example, Elliott supplied two 15,000 kW turbine generators to the Mexican Federal Electricity Commission. These were the largest air-cooled units available at the time. As was the case before the war, the steam turbines were manufactured in Jeannette and the electrical generators in Ridgway.

The market for turbochargers exploded in the mid-1950s. Production increased from roughly 1,000 units each year in the late 1940s up to 4,500 units in 1955 and 5,000 units in 1956. Elliott was the leading producer of 4-cycle diesel engine turbochargers in the U.S. In the 1952 Indianapolis 500, a race car equipped with a Cummins diesel truck engine and an Elliott turbocharger was the first diesel-powered vehicle to start from the pole position. Driven by "Fearless Freddie" Agabashian, the Cummins Diesel Special led the race until track debris drawn into the air inlet damaged the turbocharger, forcing the car to withdraw. By the time Elliott sold the turbocharger business in 2001, the company had manufactured more than 42,000 turbochargers for use in locomotives, ships, and other diesel engines.

Another product development program during the war resulted in the use of fabricated steel bases and housings for Elliott's "Type P" single-stage compressors. These blowers were in great demand in steel mills, refineries and other industrial applications. The blower drivers were often either Elliott steam turbines or motors from the Ridgway division.

In the 1950s, a number of nitric acid plants were built, primarily to manufacture fertilizer. The nitric acid production process generated a lot of heat; the exhaust gases could reach 1400° F. Elliott was the first to supply these plants with specially designed power recovery gas turbines that captured this heat energy and used it to power process air compressors.


CROCKER-WHEELER

Electrical equipment

When the war ended in 1945, the U.S. government canceled its contracts for the submarine propulsion systems that accounted for most of the Ridgway division's production. Nonetheless, by 1947 production and revenues at Ridgway were at record levels, due to cost reduction measures and a complete overhaul of the electrical equipment product line that began in 1945. In 1948, Ridgway shipped over 700 motors and 25 turbine-generators.

One of several product innovations offered by Ridgway was a self-contained, air-cooled outdoor motor. As utilities built ever larger power stations, generating equipment previously housed indoors was moved into outdoor and semi-outdoor installations. The modifications to indoor motors for outdoor use that Ridgway pioneered led to a new industrial classification for weather-protected motors. In another first, in 1951 a Ridgway-built generator produced electricity at the first atomic power plant, the National Reactor Testing Station near Idaho Falls, Idaho.

Elliott created an acoustical laboratory at Ridgway to study ways to produce quieter large induction motors. The laboratory was an enormous sound-proofed room that allowed accurate study of motor noise undistorted by external noise or internal sound reflections. After several years of research, Elliott shipped its first "Super-Quiet" motors in 1955.

Elliott significantly expanded its electrical equipment business in 1949 with the purchase of the Crocker-Wheeler Company. Crocker-Wheeler was an historic name in the electrical industry. Francis Crocker and Schuyler Wheeler were friends from their days together at Columbia University. Together with Charles Curtis, they organized C&C Electric Motor Company in 1885. This was the first company to manufacture and sell 100 motors that were exactly alike. In 1888, Crocker and Wheeler founded their eponymous company.

Over the next sixty years, Crocker-Wheeler became a leader in supplying electrical motors to industry, especially the steel industry. Crocker-Wheeler motors were the first to be geared to machine tools, the first to drive exhaust fans, the first to drive pumps, the first mill-type motors, and the first to operate printing presses, among many other accomplishments. At the time of Elliott's purchase, Crocker-Wheeler occupied 14 acres in Ampere, New Jersey and employed 1,000. With motors as small as 1 HP, Crocker-Wheeler extended the Ridgway product line and gave Elliott a complete line of electrical products. Production was organized so that small units were built in Ampere, and large units were built at Ridgway. In 1954, Elliott moved Crocker-Wheeler to the new Building 48 in Jeannette.

The addition of Crocker-Wheeler made electrical equipment a much larger part of Elliott's business. In the post-war years leading up to 1949, sales of the electrical equipment built at Ridgway accounted for about one-third of Elliott's revenue. The apparatus manufactured in Jeannette accounted for most of the rest; the Lagonda division in Ohio generated only about 6-7 percent of sales. Crocker-Wheeler and Ridgway together generated 47 percent of Elliott's total sales in 1950, and in 1951 these operations produced 52 percent of Elliott's revenue.

In 1953, Elliott sold more auxiliary motor drives to utilities than any other manufacturer. Steel mills bought Elliott's large, 3000 HP rolling mill motors and used Elliott motors to power cranes, pumps, fans, and blast furnace and coke oven blowers. Refineries and petrochemical plants installed Elliott motors to drive pumps, fans, air compressors and pipeline compressors. Mines used Elliott motors to drive pumps, blowers, and conveyors. In the mid-1950s, the electrical equipment operations and Jeannette each provided 48 to 49 percent of Elliott's total sales; the Lagonda operation in Ohio accounted for the other 3 percent.

Hydroelectric power

One of the earliest hydroelectric power stations was built at Niagara Falls, NY in 1896. An illustrious international commission including Lord Kelvin, Lord Rothschild, J.P. Morgan and John Jacob Astor established a competition in the 1890s to use the power of Niagara Falls to generate electricity. A proposal from George Westinghouse using Nikolai Tesla's alternating current system won over a competing bid from Thomas Edison and General Electric proposing direct current. On November 16, 1896, electrical power was sent from Niagara Falls to industries in Buffalo, New York.

Hydroelectric power generation was a market that Elliott's Ridgway operation served off and on through its history. Ridgway Dynamo and Engine Company shipped its first waterwheel generator in 1912 to the Arctic Mining and Power Company for installation at Emigrant Gap, California. This was a horizontally mounted unit, unlike the vertical generators that became more common. The Ridgway division of Elliott Company shipped its first vertical waterwheel generator in 1938 to the Imperial (California) Irrigation District on the All American Canal. The generator produced 12,000 kilovolts (kV) at 150 rpm on a 200-inch (5 meter) diameter frame. The contract required Elliott to set up and test this large machine before it shipped. Elliott bore the cost of building a reinforced concrete test block with a synchronous shop condenser for the test. The costs involved resulted in a significant loss on the project, and Elliott abandoned the hydroelectric market for several years.

Positive changes in the hydroelectric power market led Elliott to re-enter this business in 1946. Following the war, the U.S. Bureau of Reclamation and the Army Corps of Engineers undertook a large of number of projects throughout the country. In recognition of the tremendous size of the generators, industry practice had changed to field testing the machines after erection, eliminating the cost and complexity of plant testing.

Elliott was a late-comer to the field and was competing against companies with twenty-five and more years of experience. Elliott added a group of experienced erection supervisors and won a number of contracts. For one project, Elliott shipped four generators producing 16,700 kV at 100 rpm to the Box Canyon Generating Station, Ione, Washington. The units were built on 265-inch (6.75 meter) diameter frames, with a load of 1,040,000 pounds (472,000 kilograms) on a 69-inch (1.75 meter) diameter Kingsbury thrust bearing.

Elliott installed its last hydroelectric generators in 1961. These included two 42,100 kV, 128 rpm machines for the Fort Peck Power Plant on the Missouri River in Montana, and four 36,100 kV, 112 rpm machines for the W.F. George plant on the Chattahoochee River in Georgia. All of these units were built on 300-inch (7.6 meter) frames. Designs were completed for 325-inch (8.25 meter), 50,500 kV generators, but these machines were never built. Elliott was rightfully proud of its performance in the hydroelectric market. Every Elliott generator built after 1947 out-delivered its guaranteed efficiency, and no Elliott generator experienced a failure of its stator coil or thrust bearing after it was placed in service.