UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2021

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

Commission File no. 1-07615

Kirby Corporation

(Exact name of registrant as specified in its charter)

Nevada	**74-1884980**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
55 Waugh Drive, Suite 1000	
Houston, Texas	**77007**
(Address of principal executive offices)	**(Zip Code)**

Registrant's telephone number, including area code:
713-435-1000

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock	KEX	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act:
None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Exchange Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
		Emerging growth company	☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☒

The aggregate market value of common stock held by non-affiliates of the registrant as of June 30, 2021, based on the closing sales price of such stock on the New York Stock Exchange on June 30, 2021, was $3,605,823,000. For purposes of this computation, all executive officers, directors and 10% beneficial owners of the registrant are deemed to be affiliates. Such determination should not be deemed an admission that such executive officers, directors and 10% beneficial owners are affiliates.

As of February 17, 2022, 60,201,000 shares of common stock were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Company's definitive proxy statement in connection with the Annual Meeting of Stockholders to be held April 26, 2022, to be filed with the Commission pursuant to Regulation 14A, are incorporated by reference into Part III of this report.

KIRBY CORPORATION
2021 FORM 10-K
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PART I

Item 1. ***Business***

THE COMPANY

Kirby Corporation (the "Company") is the nation's largest domestic tank barge operator, transporting bulk liquid products throughout the Mississippi River System, on the Gulf Intracoastal Waterway, and coastwise along all three United States coasts. The Company transports petrochemicals, black oil, refined petroleum products, and agricultural chemicals by tank barge. Through its distribution and services segment, the Company sells after-market service and genuine replacement parts for engines, transmissions, reduction gears, and power generation equipment used in oil and gas and commercial and industrial applications. The Company also rents a variety of power generation and industrial equipment, manufactures and remanufactures oilfield service equipment, including pressure pumping units, and manufactures electric power generation equipment for oilfield customers.

Unless the context otherwise requires, all references herein to the Company include the Company and its subsidiaries. The Company's principal executive office is located at 55 Waugh Drive, Suite 1000, Houston, Texas 77007, and its telephone number is 713-435-1000. The Company's mailing address is P.O. Box 1745, Houston, Texas 77251-1745. Kirby Corporation is a Nevada corporation and was incorporated in 1969 although the history of the Company goes back to 1921.

Documents and Information Available on Website

The Internet address of the Company's website is http://www.kirbycorp.com. The Company makes available free of charge through its website, all of its filings with the Securities and Exchange Commission ("SEC"), including its Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports, as soon as reasonably practicable after they are electronically filed with or furnished to the SEC. The SEC maintains an internet site at http://www.sec.gov that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC.

The following documents are available on the Company's website in the Investor Relations section under Corporate Governance:

- Audit Committee Charter
- Compensation Committee Charter
- ESG and Nominating Committee Charter
- Business Ethics Guidelines
- Corporate Governance Guidelines

The Company is required to make prompt disclosure of any amendment to or waiver of any provision of its Business Ethics Guidelines that applies to any director or executive officer or to its chief executive officer, chief financial officer, chief accounting officer or controller or persons performing similar functions. The Company will make any such disclosure that may be necessary by posting the disclosure on its website in the Investor Relations section under Corporate Governance.

BUSINESS AND PROPERTY

The Company, through its subsidiaries, conducts operations in two reportable business segments: marine transportation and distribution and services.

The Company, through its marine transportation segment, is a provider of marine transportation services, operating tank barges and towing vessels transporting bulk liquid products throughout the Mississippi River System, on the Gulf Intracoastal Waterway, and coastwise along all three United States coasts. The Company transports petrochemicals, black oil, refined petroleum products, and agricultural chemicals by tank barge. The Company operates offshore dry-bulk barge and tugboat units engaged in the offshore transportation of dry-bulk cargoes in the United States coastal trade. The segment is a provider of transportation services for its customers and, in almost all cases, does not assume ownership of the products that it transports. All of the Company's vessels operate under the United States flag and are qualified for domestic trade under the Jones Act.

The Company, through its distribution and services segment, sells after-market service and genuine replacement parts for engines, transmissions, reduction gears, electric motors, drives, and controls, specialized electrical distribution and control systems, energy storage battery systems, and related oilfield services equipment, rebuilds component parts or entire diesel engines, transmissions and reduction gears, and related equipment used in oilfield services, marine, power generation, on-highway and other industrial applications. The Company also rents equipment including generators, industrial compressors, high capacity lift trucks, and refrigeration trailers for use in a variety of industrial markets, and manufactures and remanufactures oilfield service equipment, including pressure pumping units, and manufacturers electric power generation equipment, specialized electrical distribution and control equipment, and high capacity energy storage/battery systems for oilfield customers.

The Company has approximately 5,125 employees, the large majority of whom are in the United States.

MARINE TRANSPORTATION

The marine transportation segment is primarily a provider of transportation services by tank barge for the inland and coastal markets. As of December 31, 2021, the equipment owned or operated by the marine transportation segment consisted of 1,025 inland tank barges with 22.9 million barrels of capacity, and an average of 255 inland towboats during the fourth quarter of 2021, as well as 31 coastal tank barges with 3.1 million barrels of capacity, 29 coastal tugboats, four offshore dry-bulk cargo barges, four offshore tugboats and one docking tugboat with the following specifications and capacities:

Class of equipment	Number in class	Average age (in years)	Barrel capacities
Inland tank barges (owned and leased):			
Regular double hull:			
20,000 barrels and under	348	14.5	4,050,000
Over 20,000 barrels	623	12.9	17,907,000
Specialty double hull	54	36.3	913,000
Total inland tank barges	1,025	14.7	22,870,000
Inland towboats (owned and chartered):			
800 to 1300 horsepower	34	34.9	
1400 to 1900 horsepower	26	22.1	
2000 to 2400 horsepower	148	11.7	
2500 to 3200 horsepower	33	10.9	
3300 to 4800 horsepower	9	21.2	
Greater than 5000 horsepower	5	22.1	
Total inland towboats	255	16.3	
Coastal tank barges (owned and leased):			
30,000 barrels and under	2	27.1	37,000
50,000 to 70,000 barrels	4	15.2	163,000
80,000 to 90,000 barrels	10	18.3	849,000
100,000 to 110,000 barrels	6	15.5	630,000
120,000 to 150,000 barrels	3	20.0	416,000
Over 150,000 barrels	6	6.1	1,046,000
Total coastal tank barges	31	15.7	3,141,000
Coastal tugboats (owned and chartered):			
2000 to 2900 horsepower	1	46.1	
3000 to 3900 horsepower	3	32.7	
4000 to 4900 horsepower	8	12.2	
5000 to 6900 horsepower	11	5.7	
Greater than 7000 horsepower	6	11.5	
Total coastal tugboats	29	12.2	
			Deadweight Tonnage
Offshore dry-bulk cargo barges (owned)	4	23.1	67,000
Offshore tugboats and docking tugboat (owned and chartered)	5	30.5	

The 255 inland towboats, 29 coastal tugboats, four offshore tugboats and one docking tugboat provide the power source and the 1,025 inland tank barges, 31 coastal tank barges and four offshore dry-bulk cargo barges provide the freight capacity for the marine transportation segment. When the power source and freight capacity are combined, the unit is called a tow. The Company’s inland tows generally consist of one towboat and from one to up to 25 tank barges, depending upon the horsepower of the towboat, the waterway infrastructure capacity and conditions, and customer requirements. The Company’s coastal and offshore tows primarily consist of one tugboat and one tank barge or dry-bulk cargo barge.

Marine Transportation Industry Fundamentals

The United States inland waterway system, composed of a network of interconnected rivers and canals that serve the nation as water highways, is one of the world's most efficient transportation systems. The nation's inland waterways are vital to the United States distribution system, with over 1.1 billion short tons of cargo moved annually on United States shallow draft waterways. The inland waterway system extends approximately 26,000 miles, 12,000 miles of which are generally considered significant for domestic commerce, through 38 states, with 635 shallow draft ports. These navigable inland waterways link the United States heartland to the world.

The United States coastal waterway system consists of ports along the Atlantic, Gulf and Pacific coasts, as well as ports in Alaska, Hawaii and on the Great Lakes. Like the inland waterways, the coastal trade is vital to the United States distribution system, particularly the regional distribution of refined petroleum products from refineries and storage facilities to a variety of destinations, including other refineries, distribution terminals, power plants and ships. In addition to distribution directly from refineries and storage facilities, coastal tank barges are used frequently to distribute products from pipelines. Many coastal markets receive refined petroleum products principally from coastal tank barges. Smaller volumes of petrochemicals are distributed from Gulf Coast plants to end users whereas black oil, including crude oil and natural gas condensate, is distributed regionally from refineries and terminals along the United States coast to refineries, power plants and distribution terminals.

Based on cost, safety, and level of emissions, barge transportation is often the most efficient and safest means of surface transportation of bulk commodities when compared to railroads and trucks. The cargo capacity of a 27,500 barrel inland tank barge is the equivalent of 46 railroad tank cars or 144 tractor-trailer tank trucks. A typical Company lower Mississippi River linehaul tow of 15 barges has the carrying capacity of approximately 216 railroad tank cars plus six locomotives, or approximately 1,050 tractor-trailer tank trucks. The Company's inland tank barge fleet capacity of 22.9 million barrels equates to approximately 38,300 railroad tank cars or approximately 120,000 tractor-trailer tank trucks. Furthermore, barging is much more energy efficient. One ton of bulk product can be carried 675 miles by inland barge on one gallon of fuel, compared to 472 miles by railcar or 151 miles by truck. From an emissions perspective, transport by rail and tractor-trailer tank trucks emit approximately 40% and 800%, respectively, more CO_2 per ton mile of cargo transported than by inland tank barge. In the coastal trade, the carrying capacity of a 100,000 barrel tank barge is the equivalent of approximately 165 railroad tank cars or approximately 525 tractor-trailer tank trucks. The Company's coastal tank barge fleet capacity of 3.1 million barrels equates to approximately 5,250 railroad tank cars or approximately 16,450 tractor-trailer tank trucks. Marine transportation generally involves less urban exposure than railroad or truck transportation and operates on a system with few crossing junctures and often in areas relatively remote from population centers. These factors generally help to reduce the number of waterway incidents.

Inland Tank Barge Industry

The Company operates within the United States inland tank barge industry, a diverse and independent mixture of approximately 30 large integrated transportation companies and small operators, as well as captive fleets owned by refining and petrochemical companies. The inland tank barge industry provides marine transportation of bulk liquid cargoes for customers and, in the case of captives, for their own account, throughout the Mississippi River and its tributaries and on the Gulf Intracoastal Waterway. The most significant markets in this industry include the transportation of petrochemicals, black oil, refined petroleum products, and agricultural chemicals. The Company operates in each of these markets. The use of marine transportation by the petroleum and petrochemical industry is a major reason for the location of United States refineries and petrochemical facilities on navigable inland waterways. Texas and Louisiana currently account for approximately 80% of the United States production of petrochemicals. Much of the United States farm belt is likewise situated with access to the inland waterway system, relying on marine transportation of farm products, including agricultural chemicals. The Company's principal distribution system encompasses the Gulf Intracoastal Waterway from Brownsville, Texas, to Port St. Joe, Florida, the Mississippi River System and the Houston Ship Channel. The Mississippi River System includes the Arkansas, Illinois, Missouri, Ohio, Red, Tennessee, Yazoo, Ouachita and Black Warrior Rivers and the Tennessee-Tombigbee Waterway.

The number of tank barges that operate on the inland waterways of the United States declined from an estimated 4,200 in 1982 to 2,900 in 1993, remained relatively constant at 2,900 until 2002, decreased to 2,750 from 2002 through 2006, then increased to approximately 4,000 by the end of 2019, and remained relatively flat during 2020 and 2021. The Company believes the decrease from 4,200 in 1982 to 2,750 in 2006 primarily resulted from the increasing age of the domestic tank barge fleet, which resulted in scrapping; rates inadequate to justify new construction; a reduction in tax incentives, which previously encouraged speculative construction of new equipment; stringent operating standards to adequately cope with safety and environmental risk; the elimination of government regulations and programs supporting the many small refineries and the proliferation of oil traders which created a strong demand for tank barge services; an increase in the average capacity per barge; and an increase in environmental regulations that mandate expensive equipment modification, which some owners were unwilling or unable to undertake given capital constraints and the age of their fleets. The cost of tank barge hull work for required periodic United States Coast Guard ("USCG") certifications, as well as general safety and environmental concerns, force operators to periodically reassess their ability to recover maintenance costs. The increase from 2,750 tank barges in 2006 to approximately 4,000 by the end of 2019 primarily resulted from increased barge construction and deferred retirements due to strong demand and resulting capacity shortages. The number of industry tank barges has remained relatively constant from 2019 through the end of 2021. The Company’s 1,025 inland tank barges represent approximately 26% of the industry’s approximately 4,000 inland tank barges.

For 2019, the Company estimated that industry-wide 150 new tank barges were placed in service and 100 tank barges were retired. For 2020, the Company estimated that industry-wide approximately 150 new tank barges were placed in service and 150 tank barges were retired. For 2021, the Company estimated that industry-wide 70 new tank barges were placed in service and 90 tank barges were retired. During 2019, the Company's inland tank barge utilization rates increased above 90% due to a favorable pricing environment for customers’ products, new petrochemical industry capacity that led to increased movements of petrochemicals, and higher volumes of crude oil moved from the Northern U.S. to the Gulf Coast. During 2020, the Company's tank barge utilization decreased from the low to mid-90% range in the 2020 first quarter to the high 60% range during the 2020 fourth quarter as a result of a reduction in demand due to the COVID-19 pandemic. During 2021, the Company's inland barge utilization improved to the mid-to high 80% range by the fourth quarter as the economy began to recover from the COVID-19 pandemic. The Company estimates that approximately 5 to 10 new tank barges have currently been ordered for delivery in 2022. Generally, the risk of an oversupply of tank barges may be mitigated by increased petrochemical, black oil and refined petroleum products volumes from increased production from current facilities, plant expansions, the opening of new facilities, and the fact that the inland tank barge industry has approximately 385 tank barges that are 30 years old or older and approximately 280 of those are 40 years old or older, which could lead to retirement of these older tank barges. The average age of the nation’s inland tank barge fleet is approximately 15 years.

The Company’s inland marine transportation segment also owns a shifting operation and fleeting facility for dry cargo barges and tank barges on the Houston Ship Channel, in Freeport and Port Arthur, Texas, and Lake Charles, Louisiana, and a shipyard for building inland towboats and providing routine maintenance on marine vessels. The Company also owns a two-thirds interest in Osprey Line, L.L.C. (“Osprey”), a transporter of project cargoes and cargo containers by barge on the United States inland waterway system.

Coastal Tank Barge Industry

The Company also operates in the United States coastal tank barge industry, operating tank barges in the 195,000 barrels or less category. This market is composed of approximately 20 large integrated transportation companies and small operators. The 195,000 barrels or less category coastal tank barge industry primarily provides regional marine transportation distribution of bulk liquid cargoes along the United States’ Atlantic, Gulf and Pacific coasts, in Alaska and Hawaii, and to a lesser extent, on the Great Lakes. Products transported are primarily refined petroleum products and black oil from refineries and storage facilities to a variety of destinations, including other refineries, distribution terminals, power plants and ships, the regional movement of crude oil and natural gas condensate to Gulf Coast, Northeast and West Coast refineries, and the movement of petrochemicals primarily from Gulf Coast petrochemical facilities to end users.

The number of coastal tank barges that operate in the 195,000 barrels or less category is approximately 270, of which the Company operates 31 or approximately 11%. The average age of the nation’s coastal tank barge fleet is approximately 15 years. The Company is aware of one small specialized coastal articulated tank barge and tugboat unit ("ATB") that was delivered in the first quarter of 2021 with no further coastal barges currently under construction. The coastal tank barge fleet has approximately 20 tank barges that are over 25 years old. The number of older tank barges, coupled with low industry-wide barge utilization levels and ballast water treatment regulations, could lead to further retirements of these older tank barges in the next few years.

Competition in the Tank Barge Industry

The tank barge industry is very competitive. Competition in this business is based on price and reliability, with many of the industry’s customers emphasizing enhanced vetting requirements, an increased emphasis on safety, the environment, and high quality service consistent with the customer's operational standards. Customers also require that their supplier of tank barge services have the ability to handle a variety of requirements, including distribution capabilities throughout the inland waterway system and coastal markets, high levels of flexibility, and an emphasis on safety, environmental and financial responsibility, as well as appropriate insurance coverage.

In the inland markets, the Company’s direct competitors are primarily noncaptive inland tank barge operators. “Captive” fleets are owned by refining and petrochemical companies which occasionally compete in the inland tank barge market, but primarily transport cargoes for their own account. The Company is the largest inland tank barge carrier, both in terms of number of barges and total fleet barrel capacity. The Company’s inland tank barge fleet has grown from 71 tank barges in 1988 to 1,025 tank barges as of December 31, 2021, or approximately 26% of the estimated total number of domestic inland tank barges.

In the coastal markets, the Company’s direct competitors are the operators of United States tank barges in the 195,000 barrels or less category. Coastal tank barges in the 195,000 barrels or less category have the ability to enter the majority of coastal ports. Ocean-going tank barges and United States product tankers in the 300,000 barrels plus category, excluding the fleet of large tankers dedicated to Alaska crude oil transportation, occasionally compete in the 195,000 barrels or less market to move large volumes of refined petroleum products within the Gulf of Mexico with occasional movements from the Gulf Coast to the East Coast, along the West Coast and from Texas and Louisiana to Florida. However, of the approximately 45 such vessels, because of their size, their access to ports is limited by terminal size and draft restrictions.

While the Company competes primarily with other tank barge companies, it also competes with companies who operate refined product and petrochemical pipelines, railroad tank cars, and tractor-trailer tank trucks. As noted above, the Company believes that both inland and coastal marine transportation of bulk liquid products enjoy a substantial cost advantage over railroad and truck transportation. The Company believes that refined product and crude oil pipelines, although often a less expensive form of transportation than inland and coastal tank barges, are not as adaptable to diverse products and are generally limited to fixed point-to-point distribution of commodities in high volumes over extended periods of time.

Products Transported

The Company transports petrochemicals, black oil, refined petroleum products, and agricultural chemicals by tank barge throughout the Mississippi River System, on the Gulf Intracoastal Waterway, and coastwise along all three United States coasts. During 2021, the Company's inland marine transportation operation moved over 47 million tons of liquid cargo on the United States inland waterway system.

Petrochemicals. Bulk liquid petrochemicals transported include such products as benzene, styrene, methanol, acrylonitrile, xylene, naphtha and caustic soda. These products are consumed in the production of paper, fiber and plastics. Pressurized products, including butadiene, isobutane, propylene, butane and propane, all requiring pressurized conditions to remain in stable liquid form, are transported in pressure barges. The transportation of petrochemical products represented 50% of the segment's 2021 revenues. Customers shipping these products are petrochemical and refining companies.

Black Oil. Black oil transported includes such products as residual fuel oil, No. 6 fuel oil, coker feedstock, vacuum gas oil, asphalt, carbon black feedstock, crude oil, natural gas condensate and ship bunkers (engine fuel). Such products represented 26% of the segment's 2021 revenues. Black oil customers are refining companies, marketers, and end users that require the transportation of black oil between refineries and storage terminals, to other refineries and to power plants. Ship bunker customers are oil companies and oil traders in the bunkering business.

Refined Petroleum Products. Refined petroleum products transported include the various blends of finished gasoline, gasoline blendstocks, jet fuel, No. 2 oil, heating oil and diesel fuel, and represented 20% of the segment's 2021 revenues. The Company also classifies ethanol in the refined petroleum products category. Customers are oil and refining companies, marketers and ethanol producers.

Agricultural Chemicals. Agricultural chemicals transported represented 4% of the segment's 2021 revenues. Agricultural chemicals include anhydrous ammonia and nitrogen-based liquid fertilizer, as well as industrial ammonia. Agricultural chemical customers consist mainly of domestic and foreign producers of such products.

Demand Drivers in the Tank Barge Industry

Demand for tank barge transportation services is driven by the production volumes of the bulk liquid commodities. Marine transportation demand for the segment's four primary commodity groups, petrochemicals, black oil, refined petroleum products and agricultural chemicals, is based on differing circumstances. While the demand drivers of each commodity are different, the Company has the flexibility, in certain cases, of reallocating inland equipment and coastal equipment among the petrochemical, refined petroleum products and black oil markets as needed.

Petrochemical products are used in both consumer non-durable and durable goods. Bulk petrochemical volumes have historically tracked the general domestic economy and correlate to the United States Gross Domestic Product. Barge utilization ranged from the low to mid-90% range during the majority of 2019 as a result of a favorable pricing environment for customers' products, new petrochemical industry capacity that led to increased movements of petrochemicals, and the continued retirement of older barges from the segment's fleet. During 2020, Gulf Coast petrochemical plants saw reduced production levels as a result of lower demand due to the COVID-19 pandemic thereby decreasing marine transportation volumes of basic petrochemicals to both domestic consumers and terminals for export destinations. In addition, during the 2020 third quarter, the petrochemical complex along the Gulf Coast was impacted by hurricanes and tropical storms, further reducing barge volumes and closing critical waterways for extended periods of time. As a result, barge utilization decreased from the low to mid-90% range during the 2020 first quarter to the high 60% range in the 2020 fourth quarter and then recovered to the mid-to high 80% range in the 2021 fourth quarter as the economy improved. Coastal tank barge utilization for the transportation of petrochemicals remained steady in the mid-to-high 80% range for 2019 through 2021 due to a high percentage of term contracts.

The demand for black oil, including ship bunkers, varies by type of product transported. Demand for transportation of residual oil, a heavy by-product of refining operations, varies with refinery utilization and usage of feedstocks. During 2019 through 2021, the Company continued to transport crude oil and natural gas condensate produced from the Eagle Ford and Permian Basin shale formations in Texas both along the Gulf Intracoastal Waterway with inland vessels and in the Gulf of Mexico with coastal equipment, and continued to transport Utica crude oil and natural gas condensate downriver from the Mid-Atlantic to the Gulf Coast, albeit, at reduced levels as some of the product was transported by newly constructed pipelines. During 2020, the Company experienced a further decrease in volumes being transported along these routes as a result of reduced demand due to the COVID-19 pandemic and oil price volatility during the year. During 2021, volumes recovered from the lows seen in 2020 as economic activity improved. During 2019, strong demand for crude oil and natural gas condensate movements resulted in inland black oil tank barge utilization in the mid-to high 90% range. During 2020, the COVID-19 pandemic resulted in reduced demand for crude oil and natural gas condensate movements and resulted in a decrease in black oil tank barge utilization from the low to mid-90% range during the 2020 first half to the mid-60% to low 70% range during the 2020 second half. During 2021, as economic activity improved, black oil tank barge utilization averaged in the mid 70% range during the first nine months of 2021 and recovered to the high 80% range in the 2021 fourth quarter. Coastal black oil tank barge utilization averaged in the high 90% range in 2019 due to the retirement of coastal barges throughout the industry and declined slightly to the mid 90% range in 2020 and 2021 despite the reduced demand as a result of the COVID-19 pandemic as utilization was supported by a high percentage of term contracts. Inland and coastal asphalt shipments are generally seasonal, with higher volumes shipped during April through November, months when weather allows for efficient road construction.

Refined petroleum product volumes are driven by United States gasoline and diesel fuel consumption, principally vehicle usage, air travel, and weather conditions. Volumes can also be affected by gasoline inventory imbalances within the United States. Generally, gasoline and No. 2 oil are exported from the Gulf Coast where refining capacity exceeds demand. The Midwest is a net importer of such products. Volumes were also driven by diesel fuel transported to terminals along the Gulf Coast for export to South America. Ethanol, produced in the Midwest, is moved from the Midwest to the Gulf Coast. In the coastal trade, tank barges are frequently used regionally to transport refined petroleum products from a coastal refinery or terminals served by pipelines to the end markets. Many coastal areas rely upon access to refined petroleum products by using marine transportation in the distribution chain. Coastal refined petroleum products tank barge utilization in 2019 was in the low 70% range primarily due to the retirement of out-of-service coastal barges during prior years and improved customer demand resulting in higher barge utilization in the spot market in 2019. In 2020, coastal refined petroleum products tank barge utilization declined to the low 60% range due to the COVID-19 pandemic and the resulting reduction in demand and recovered into the low 70% range in the 2021 fourth quarter due to increased business activity and the retirement of underutilized equipment in the 2021 third quarter.

Demand for marine transportation of domestic and imported agricultural fertilizer is seasonal and directly related to domestic nitrogen-based liquid fertilizer consumption, driven by the production of corn, cotton and wheat. During periods of high natural gas prices, the manufacturing of nitrogen-based liquid fertilizer in the United States is curtailed. During these periods, imported products, which normally involve longer barge trips, replace the domestic products to meet Midwest and South Texas demands. Such products are delivered to the numerous small terminals and distributors throughout the United States farm belt.

Marine Transportation Operations

The marine transportation segment operated a fleet of 1,025 inland tank barges and an average of 255 inland towboats during the 2021 fourth quarter, as well as 31 coastal tank barges and 29 coastal tugboats. The segment also operated four offshore dry-bulk cargo barges, four offshore tugboats and one docking tugboat transporting dry-bulk commodities in United States coastal trade.

Inland Operations. The segment's inland operations are conducted through a wholly owned subsidiary, Kirby Inland Marine, LP ("Kirby Inland Marine"). Kirby Inland Marine's operations consist of the Canal, Linehaul and River fleets, as well as barge fleeting services.

The Canal fleet transports petrochemical feedstocks, processed chemicals, pressurized products, black oil, and refined petroleum products along the Gulf Intracoastal Waterway, the Mississippi River below Baton Rouge, Louisiana, and the Houston Ship Channel. Petrochemical feedstocks and certain pressurized products are transported from one plant to another plant for further processing. Processed chemicals and certain pressurized products are moved to waterfront terminals and chemical plants. Black oil is transported to waterfront terminals and products such as No. 6 fuel oil are transported directly to the end users. Refined petroleum products are transported to waterfront terminals along the Gulf Intracoastal Waterway for distribution.

The Linehaul fleet transports petrochemical feedstocks, chemicals, agricultural chemicals and lube oils along the Gulf Intracoastal Waterway, Mississippi River and the Illinois and Ohio Rivers. Loaded tank barges are staged in the Baton Rouge area from Gulf Coast refineries and petrochemical plants, and are transported from Baton Rouge, Louisiana to waterfront terminals and plants on the Mississippi, Illinois and Ohio Rivers, and along the Gulf Intracoastal Waterway, on regularly scheduled linehaul tows. Tank barges are dropped off and picked up going up and down river.

The River fleet transports petrochemical feedstocks, chemicals, refined petroleum products, agricultural chemicals and black oil along the Mississippi River System above Baton Rouge. The River fleet operates unit tows, where a towboat and generally a dedicated group of barges operate on consecutive voyages between loading and discharge points. Petrochemical feedstocks and processed chemicals are transported to waterfront petrochemical and chemical plants, while black oil, refined petroleum products and agricultural chemicals are transported to waterfront terminals.

The inland transportation of petrochemical feedstocks, chemicals and pressurized products is generally consistent throughout the year. Transportation of refined petroleum products, certain black oil and agricultural chemicals is generally more seasonal. Movements of black oil, such as asphalt, generally increase in the spring through fall months. Movements of refined petroleum products, such as gasoline blends, generally increase during the summer driving season, while heating oil movements generally increase during the winter months. Movements of agricultural chemicals generally increase during the spring and fall planting seasons.

The marine transportation inland operation moves and handles a broad range of sophisticated cargoes. To meet the specific requirements of the cargoes transported, the inland tank barges may be equipped with self-contained heating systems, high-capacity pumps, pressurized tanks, refrigeration units, stainless steel tanks, aluminum tanks or specialty coated tanks. Of the 1,025 inland tank barges currently operated, 787 are petrochemical and refined petroleum products barges, 153 are black oil barges, 75 are pressure barges and 10 are refrigerated anhydrous ammonia barges. Of the 1,025 inland tank barges, 983 are owned by the Company and 42 are leased.

The fleet of 255 inland towboats for the 2021 fourth quarter ranges from 800 to 6,100 horsepower. Of the 255 inland towboats, 211 are owned by the Company and 44 are chartered. Towboats in the 800 to 2,100 horsepower classes provide power for barges used by the Canal and Linehaul fleets on the Gulf Intracoastal Waterway and the Houston Ship Channel. Towboats in the 1,400 to 3,200 horsepower classes provide power for both the River and Linehaul fleets on the Gulf Intracoastal Waterway and the Mississippi River System. Towboats above 3,600 horsepower are typically used on the Mississippi River System to move River fleet unit tows and provide Linehaul fleet towing. Based on the capabilities of the individual towboats used in the Mississippi River System, the tows range in size from 10,000 to 30,000 tons.

Marine transportation services for inland movements are conducted under term contracts, which have contract terms of 12 months or longer, or spot contracts, which have contract terms of less than 12 months, with customers with whom the Company has traditionally had long-standing relationships. Typically, term contracts range from one to three years, some of which have renewal options. During 2019, 2020, and 2021 approximately 65% of inland marine transportation revenues were under term contracts and 35% were spot contract revenues.

All of the Company’s inland tank barges used in the transportation of bulk liquid products are of double hull construction and are capable of controlling vapor emissions during loading and discharging operations in compliance with occupational safety and health regulations and air quality regulations.

The Company has the ability to offer its customers optimized distribution capabilities throughout the Mississippi River System and the Gulf Intracoastal Waterway. Such capabilities offer economies of scale from matching tank barges, towboats, products, and destinations efficiently to meet its customers’ requirements.

Through the Company’s proprietary vessel management computer system, the Company’s barge and towboat fleet is dispatched from a centralized dispatch group. The towboats are equipped with cellular and satellite positioning and communication systems that automatically transmit the location of the towboat to the Company’s customer service department. Electronic orders are communicated to vessel personnel with reports of towing activities fed back electronically to the customer service department. The electronic interface between the customer service department and the vessel enables matching of customer needs to barge capabilities, thereby promoting efficient utilization of the tank barge and towboat fleet. The Company’s customers are able to access information concerning the movement of their cargoes, including barge locations, through the Company’s proprietary electronic customer service portal.

Kirby Inland Marine operates the largest commercial tank barge fleeting service (barge storage facilities) in numerous ports, including Houston, Corpus Christi, Freeport and Orange, Texas, Baton Rouge, Lake Charles and New Orleans, Louisiana, Mobile, Alabama, and Greenville, Mississippi. Included in the fleeting service is a shifting operation and fleeting service for dry cargo barges and tank barges on the Houston Ship Channel, in Freeport and Port Arthur, Texas, and Lake Charles, Louisiana. Kirby Inland Marine provides shifting and fleeting service for its own barges, as well as for customers and third party carriers, transferring barges within the areas noted.

Kirby Inland Marine also provides shore-based barge tankermen to the Company and third parties. Services to the Company and third parties cover the Gulf Coast, mid-Mississippi Valley, and the Ohio River Valley.

San Jac Marine, LLC (“San Jac”), a subsidiary of Kirby Inland Marine, owns and operates a shipyard in Channelview, Texas which builds marine vessels for both inland and coastal applications, and provide maintenance and repair services. Kirby Inland Marine also builds inland towboats and performs routine maintenance and repairs at the shipyard.

The Company owns a two-thirds interest in Osprey, which transports project cargoes and cargo containers by barge on the United States inland waterway system.

Coastal Operations. The segment's coastal operations are conducted through wholly owned subsidiaries, Kirby Offshore Marine, LLC ("Kirby Offshore Marine") and Kirby Ocean Transport Company ("Kirby Ocean Transport").

Kirby Offshore Marine provides marine transportation of refined petroleum products, petrochemicals and black oil in coastal regions of the United States. The coastal operations consist of the Atlantic and Pacific Divisions.

The Atlantic Division primarily operates along the eastern seaboard of the United States and along the Gulf Coast. The Atlantic Division vessels call on various coastal ports from Maine to Texas, servicing refineries, storage terminals and power plants. The Atlantic Division also operates equipment, to a lesser extent, in the Eastern Canadian provinces. The tank barges operating in the Atlantic Division are in the 10,000 to 194,000 barrels capacity range and coastal tugboats in the 2,400 to 10,000 horsepower range, transporting primarily refined petroleum products, petrochemicals and black oil.

The Pacific Division primarily operates along the Pacific Coast of the United States, servicing refineries and storage terminals from Southern California to Washington State. The Pacific Division's fleet consists of tank barges in the 52,000 to 193,000 barrels capacity range and tugboats in the 3,700 to 11,000 horsepower range, transporting primarily refined petroleum products.

The coastal transportation of refined petroleum products and black oil is impacted by seasonality and is partially dependent on the area of operations. Operations along the West Coast of the United States have been subject to more seasonal variations in demand than the operations along the East Coast and Gulf Coast regions of the United States. Movements of refined petroleum products such as various blends of gasoline are strongest during the summer driving season while heating oil generally increases during the winter months.

The coastal fleet consists of 31 tank barges with 3.1 million barrels of capacity, primarily transporting refined petroleum products, black oil and petrochemicals. The Company owns 30 of the coastal tank barges and leases one barge. Of the 31 coastal tank barges, 22 are refined petroleum products and petrochemical barges and 9 are black oil barges. The Company operates 29 coastal tugboats ranging from 2,400 to 11,000 horsepower, of which 26 are owned by the Company and three are chartered.

Coastal marine transportation services are conducted under long-term contracts, primarily one year or longer, some of which have renewal options, for customers with which the Company has traditionally had long-standing relationships. During and 2021 and 2019, approximately 80% of the coastal marine transportation revenues were under term contracts and 20% were spot contract revenues. During 2020, approximately 85% of the coastal marine transportation revenues were under term contracts and 15% were spot contract revenues.

Kirby Offshore Marine also operates a fleet of two offshore dry-bulk barge and tugboat units involved in the transportation of sugar and other dry products between Florida and East Coast ports. These vessels primarily operate under long-term contracts of affreightment.

Kirby Ocean Transport owns and operates a fleet of two offshore dry-bulk barges, two offshore tugboats and one docking tugboat. Kirby Ocean Transport operates primarily under term contracts of affreightment, including a contract that expires in 2022 with Duke Energy Florida ("DEF") to transport coal across the Gulf of Mexico to DEF's power generation facility at Crystal River, Florida.

Kirby Ocean Transport is also engaged in the transportation of coal, fertilizer, sugar and other bulk cargoes on a short-term basis between domestic ports and occasionally the transportation of grain from domestic ports to ports primarily in the Caribbean Basin.

Contracts and Customers

Marine transportation inland and coastal services are conducted under term or spot contracts for customers with whom the Company has traditionally had long-standing relationships. Typically, term contracts range from one to three years, some of which have renewal options. The majority of the marine transportation contracts with its customers are for terms of one year. Most have been customers of the Company's marine transportation segment for many years and management anticipates continued relationships; however, there is no assurance that any individual contract will be renewed.

A term contract is an agreement with a specific customer to transport cargo from a designated origin to a designated destination at a set rate (affreightment) or at a daily rate (time charter). The rate may or may not include escalation provisions to recover changes in specific costs such as fuel. Time charters, which insulate the Company from revenue fluctuations caused by weather and navigational delays and temporary market declines, represented approximately 58% of the marine transportation's inland revenues under term contracts during 2021, 66% of revenue under term contracts during 2020 and 62% of the revenue under term contracts during 2019. A spot contract is an agreement with a customer to move cargo from a specific origin to a designated destination for a rate negotiated at the time the cargo movement takes place. Spot contract rates are at the current "market" rate and are subject to market volatility. The Company typically maintains a higher mix of term contracts to spot contracts to provide the Company with a reasonably predictable revenue stream while maintaining spot market exposure to take advantage of new business opportunities and customers' peak demands. During 2021, 2020, and 2019, approximately 65% of inland marine transportation revenues were under term contracts and 35% were spot contract revenues. Coastal time charters represented approximately 85% of the marine transportation's coastal revenues under term contracts in 2021 and 2019, and approximately 90% of coastal revenues under term contracts in 2020.

No single customer of the marine transportation segment accounted for 10% or more of the Company's revenues in 2021, 2020, or 2019.

Properties

The principal offices of Kirby Inland Marine, Kirby Offshore Marine, Kirby Ocean Transport and Osprey are located in Houston, Texas, in two facilities under leases that expire in December 2025 and December 2027. Kirby Inland Marine's operating locations are on the Mississippi River at Baton Rouge and New Orleans, Louisiana, and Greenville, Mississippi, three locations in Houston, Texas, on or near the Houston Ship Channel, one in Miami, Florida, one in Gibson, Louisiana, one in Lake Charles, Louisiana, several properties in Westwego, Louisiana, one in Corpus Christi, Texas, and two in Orange, Texas. The New Orleans, Gibson, Westwego, Houston, and Orange operating facilities are owned by the Company, and the Baton Rouge, Corpus Christi, Lake Charles, Greenville, and Miami facilities are leased. Kirby Offshore Marine's operating facilities are located in Staten Island, New York, and Seattle, Washington. All of Kirby Offshore Marine's operating facilities are leased, including piers and wharf facilities and office and warehouse space. San Jac's operating location is near the Houston Ship Channel and is owned by the Company.

Governmental Regulations

General. The Company's marine transportation operations are subject to regulation by the USCG, federal laws, state laws, the laws of other countries when operating in their waters, and certain international conventions. The agencies establish safety requirements and standards and are authorized to investigate incidents.

Most of the Company's tank barges are inspected by the USCG and carry certificates of inspection. The Company's inland and coastal towing vessels and coastal dry-bulk barges are also subject to USCG regulations. The USCG has enacted safety regulations governing the inspection, standards, and safety management systems of towing vessels. The regulations also create many new requirements for design, construction, equipment, and operation of towing vessels. The USCG regulations supersede the jurisdiction of the United States Occupational Safety and Health Administration ("OSHA") and any state regulations on vessel design, construction, alteration, repair, maintenance, operation, equipping, personnel qualifications and manning. The regulations requiring towing vessels to obtain a certificate of inspection became effective for existing towing vessels on July 20, 2018. Other portions of the regulations are phased in following the July 20, 2018 effective date through July 19, 2022, by which time the Company expects to be in full compliance.

All of the Company's coastal tugboats and coastal tank and dry-bulk barges are built to American Bureau of Shipping ("ABS") classification standards and/or statutory requirements issued by the USCG, and are inspected periodically by ABS and/or the USCG to maintain the vessels in class and compliant with all U.S. statutory requirements, as applicable to the vessel. The crews employed by the Company aboard inland and coastal vessels, including captains, pilots, engineers, tankermen and ordinary seamen, are licensed by the USCG.

The Company is required by various governmental agencies to obtain licenses, certificates and permits for its vessels depending upon such factors as the cargo transported, the waters in which the vessels operate and other factors. The Company believes that its vessels have obtained and can maintain all required licenses, certificates and permits required by such governmental agencies for the foreseeable future. The Company's failure to maintain these authorizations could adversely impact its operations.

The Company believes that additional security and environmental related regulations relating to contingency planning requirements could be imposed on the marine industry. Generally, the Company endorses the anticipated additional regulations and believes it is currently operating to standards at least equal to anticipated additional regulations.

Jones Act. The Jones Act is a federal cabotage law that restricts domestic marine transportation in the United States to vessels built and registered in the United States and manned, owned and operated by United States citizens. For a corporation to qualify as a United States citizen for the purpose of domestic trade, it has to be 75% owned and controlled by United States citizens within the meaning of the Jones Act. The Company monitors its citizenship status and meets the requirements of the Jones Act for its owned and operated vessels.

Compliance with United States ownership requirements of the Jones Act is important to the operations of the Company, and a violation of the Jones Act could have a material negative effect on the Company and its vessels' ability to operate. The Company monitors the citizenship of its employees and stockholders and complies with United States build requirements.

User Taxes. Federal legislation requires that inland marine transportation companies pay a user tax based on propulsion fuel used by vessels engaged in trade along the inland waterways that are maintained by the United States Army Corps of Engineers. Such user taxes are designed to help defray the costs associated with replacing major components of the inland waterway system, such as locks and dams. A significant portion of the inland waterways on which the Company's vessels operate is maintained by the Army Corps of Engineers.

The Company presently pays a federal fuel user tax of 29.1 cents per gallon consisting of a 0.1 cent per gallon leaking underground storage tank tax and 29 cents per gallon waterways user tax.

Security Requirements. The Maritime Transportation Security Act of 2002 requires, among other things, submission to and approval by the USCG of vessel and waterfront facility security plans ("VSP" and "FSP", respectively). The Company maintains approved VSP and FSP and is operating in compliance with the plans for all of its vessels and facilities that are subject to the requirements.

Environmental Regulations

The Company's operations are affected by various regulations and legislation enacted for protection of the environment by the United States government, as well as many coastal and inland waterway states and international jurisdictions to the extent that the Company's vessels transit in international waters. Government regulations require the Company to obtain permits, licenses and certificates for the operation of its vessels. Failure to maintain necessary permits or approvals could require the Company to incur costs or temporarily suspend operation of one or more of its vessels. Violations of these laws may result in civil and criminal penalties, fines, or other sanctions.

Water Pollution Regulations. The Federal Water Pollution Control Act of 1972, as amended by the Clean Water Act of 1977 ("Clean Water Act"), the Comprehensive Environmental Response, Compensation and Liability Act of 1981 ("CERCLA") and the Oil Pollution Act of 1990 ("OPA") impose strict prohibitions against the discharge of oil and its derivatives or hazardous substances into the navigable waters of the United States. These acts impose civil and criminal penalties for any prohibited discharges and impose substantial strict liability for cleanup of these discharges and any associated damages. Certain states also have water pollution laws that prohibit discharges into waters that traverse the state or adjoin the state, and impose civil and criminal penalties and liabilities similar in nature to those imposed under federal laws.

The OPA and various state laws of similar intent substantially increased over historic levels the statutory liability of owners and operators of vessels for oil spills, both in terms of limit of liability and scope of damages.

The Company manages its exposure to losses from potential discharges of pollutants through the use of well-maintained and equipped vessels, through safety, training and environmental programs, and through the Company's insurance program. There can be no assurance, however, that any new regulations or requirements or any discharge of pollutants by the Company will not have an adverse effect on the Company.

Clean Water Act. The Clean Water Act establishes the National Pollutant Discharge Elimination System ("NPDES") permitting program which regulates discharges into navigable waters of the United States. The United States Environmental Protection Agency ("EPA") regulates the discharge of ballast water and other substances in United States waters under the Clean Water Act. Pursuant to the NPDES program, effective February 6, 2009, the EPA issued regulations requiring vessels 79 feet in length or longer to comply with a Vessel General Permit authorizing ballast water discharges and other discharges incidental to the operation of the vessels. The EPA regulations also imposed technology and water quality based effluent limits for certain types of discharges and established specific inspection, monitoring, recordkeeping and reporting requirements for vessels to ensure effluent limitations are met. The Vessel Incidental Discharge Act ("VIDA"), signed into law on December 4, 2018, established a new framework for the regulation of vessel incidental discharges under the Clean Water Act. VIDA requires the EPA to develop national performance standards for those discharges within two years of enactment and requires the USCG to develop implementation, compliance, and enforcement regulations within two years of the EPA's promulgation of standards. Under VIDA, all provisions of the Vessel General Permit which became effective December 19, 2013, remain in force and effect until the USCG regulations are finalized. The Company maintains Vessel General Permits and has established recordkeeping and reporting procedures in compliance with the EPA's interim requirements.

The USCG adopted regulations on ballast water management treatment systems establishing a standard for the allowable concentration of living organisms in certain vessel ballast water discharged in waters of the United States under the National Invasive Species Act. The regulations include requirements for the installation of engineering equipment to treat ballast water by establishing an approval process for ballast water management systems ("BWMS"). The BWMS implementation was suspended until December 2016 at which time the USCG approved manufacturers' systems that met the regulatory discharge standard equivalent to the International Maritime Organization's D-2 standard. The phase-in schedule for those existing vessels requiring a system to install a BWMS is dependent on vessel build date, ballast water capacity, and drydock schedule. Compliance with the ballast water treatment regulations requires the installation of equipment on some of the Company's vessels to treat ballast water before it is discharged. The installation of BWMS equipment will require significant capital expenditures at the next scheduled drydocking to complete the installation of the approved system on those existing vessels that require a system in order to comply with the BWMS regulations.

Financial Responsibility Requirement. Commencing with the Federal Water Pollution Control Act of 1972, as amended, vessels over 300 gross tons operating in the Exclusive Economic Zone of the United States have been required to maintain evidence of financial ability to satisfy statutory liabilities for oil and hazardous substance water pollution. This evidence is in the form of a Certificate of Financial Responsibility ("COFR") issued by the USCG. The majority of the Company's tank barges are subject to this COFR requirement, and the Company has fully complied with this requirement since its inception. The Company does not foresee any current or future difficulty in maintaining the COFR certificates under current rules.

Clean Air Regulations. The Federal Clean Air Act of 1979 ("CAA") requires states to draft State Implementation Plans ("SIPs") under the National Ambient Air Quality Standards designed to reduce atmospheric pollution for six common air pollutants to levels mandated by this act. The EPA designates areas in the United States as meeting or not meeting the standards. Several SIPs implement the regulation of barge loading and discharging emissions at waterfront facilities as a measure to meet the CAA standard. The implementation of these regulations requires a reduction of hydrocarbon emissions released into the atmosphere during the loading of most petroleum products and the degassing and cleaning of barges for maintenance or change of cargo. These regulations require vessel operators that operate in states with areas of nonattainment of air quality standards under the CAA to install vapor control equipment on their barges. The Company expects that future emission regulations will be developed and will apply this same technology to many chemicals that are handled by barge. Most of the Company's barges engaged in the transportation of petrochemicals, chemicals and refined petroleum products are already equipped with vapor control systems. Although a risk exists that new regulations could require significant capital expenditures by the Company and otherwise increase the Company's costs, the Company believes that, based upon the regulations that have been proposed thus far, no material capital expenditures beyond those currently contemplated by the Company and no material increase in costs are likely to be required.

Contingency Plan Requirement. The OPA and several state statutes of similar intent require the majority of the vessels and terminals operated by the Company to maintain approved oil spill contingency plans as a condition of operation. The Company has approved plans that comply with these requirements. The OPA also requires development of regulations for hazardous substance spill contingency plans. The USCG has not yet promulgated these regulations; however, the Company anticipates that they will not be more difficult to comply with than the oil spill plans.

Occupational Health Regulations. The Company's inspected vessel operations are primarily regulated by the USCG for occupational health standards. Uninspected vessel operations and the Company's shore-based personnel are subject to OSHA regulations. The Company believes that it is in compliance with the provisions of the regulations that have been adopted and does not believe that the adoption of any further regulations will impose additional material requirements on the Company. There can be no assurance, however, that claims will not be made against the Company for work related illness or injury, or that the further adoption of health regulations will not adversely affect the Company.

Insurance. The Company's marine transportation operations are subject to the hazards associated with operating vessels carrying large volumes of bulk cargo in a marine environment. These hazards include the risk of loss of or damage to the Company's vessels, damage to third parties as a result of collision, fire or explosion, adverse weather conditions, loss or contamination of cargo, personal injury of employees and third parties, and pollution and other environmental damages. The Company maintains hull, liability, general liability, workers compensation and pollution liability insurance coverage against these hazards. For shipyard operations, the Company has ship repairer's liability and builder's risk insurance. The Company uses a Texas domiciled wholly owned insurance subsidiary, Adaptive KRM, LLC, to provide cost effective risk transfer options to insure certain exposures of the Company and certain of its subsidiaries in its marine transportation and distribution and services segments. The Company also maintains insurance in the commercial insurance market to address liabilities arising in connection with its distribution and services segment.

Environmental Protection. The Company utilizes several programs to further its commitment to environmental responsibility in its operations. Environmental compliance audits, performed with internal and external resources, are performed regularly on the Company's operations. Additionally, the Company employs third party expertise to conduct safety performance, safety management system, and environmental audits on its barge cleaning and shipyard vendors. The Company participates in the American Waterways Operators Responsible Carrier program, which drives continuous improvement towards reducing the barge industry's impact on the environment. It is also a member of the Blue Sky Maritime Coalition and other organizations focused on reducing greenhouse gas emissions.

Safety. The Company manages its exposure to the hazards associated with its business through safety, training and preventive maintenance efforts. The Company emphasizes its safety commitment through programs oriented toward extensive monitoring of safety performance for the purpose of identifying trends and initiating corrective action, and for continuously improving employee safety behavior and performance.

Training. The Company believes that among the major elements of a successful and productive work force are effective training programs. The Company also believes that training in the proper performance of a job enhances both the safety and quality of the service provided. New technology, regulatory compliance, personnel safety, quality and environmental concerns create additional demands for training. Refer to Human Capital below for further discussion regarding training programs the Company has developed and instituted.

Quality. Kirby Inland Marine has made a substantial commitment to the implementation, maintenance, and improvement of quality assurance systems. Kirby Offshore Marine is certified under ABS ISM standards. These Quality Assurance Systems and certification have enabled both shore and vessel personnel to effectively manage the changes which occur in the working environment, as well as enhancing the Company's safety and environmental performance.

DISTRIBUTION AND SERVICES

The Company, through its wholly owned subsidiary Kirby Distribution & Services, Inc. and its wholly owned subsidiaries Kirby Engine Systems LLC, ("Kirby Engine Systems"), Stewart & Stevenson LLC ("S&S"), United Holdings LLC ("United"), and Diesel Dash LLC and through Kirby Engine Systems' wholly owned subsidiaries Marine Systems, Inc. ("Marine Systems") and Engine Systems, Inc. ("Engine Systems"), serves two markets, commercial and industrial, and oil and gas. The Company sells genuine replacement parts, provides service mechanics to overhaul and repair engines, transmissions, reduction gears and related oilfield service equipment, rebuilds component parts or entire diesel engines, transmissions and reduction gears, electrical motors, drives, and controls, specialized electrical distribution and control systems, energy storage battery systems, and related equipment used in oilfield services, marine, power generation, on-highway, and other commercial and industrial applications. Customers are served through a network of 62 branch locations across 17 states and Colombia, South America, as well as a proprietary on-line marketplace, www.dieseldash.com. The Company manufactures and remanufactures oilfield service equipment, including pressure pumping units, for North American as well as for international oilfield service companies, and oil and gas operator and producer markets. The Company also sells engines, transmissions, power generation systems, and rents equipment including generators, industrial compressors, high capacity lift trucks, and refrigeration trailers for use in a variety of commercial and industrial applications.

For the commercial and industrial market, the Company sells Original Equipment Manufacturers ("OEM") replacement parts and new diesel engines, provides service mechanics and maintains facilities to overhaul and repair diesel engines and ancillary products for marine and on-highway transportation companies, and industrial companies. The Company provides engineering and field services, OEM replacement parts and safety-related products to power generation operators and to the nuclear industry, manufactures engine generator and pump packages for power generation operators and municipalities, offers power generation systems customized for specific commercial and industrial applications, and rents equipment including generators, industrial compressors, high capacity lift trucks, and refrigeration trailers for use in a variety of industrial markets.

For the oil and gas market, the Company sells OEM replacement parts, sells and services diesel engines, pumps and transmissions, manufactures and remanufactures pressure pumping units, manufactures cementing and pumping equipment, as well as coil tubing and well intervention equipment, electric power generation equipment, specialized electrical distribution and control equipment, and high capacity energy storage/battery systems. Customers include oilfield service companies, and oil and gas operators and producers.

No single customer of the distribution and services segment accounted for 10% or more of the Company's revenues in 2021, 2020, or 2019. The distribution and services segment also provides service to the Company's marine transportation segment, which accounted for approximately 2% of the distribution and services segment's 2021 revenues, 3% of the segment's 2020 revenue, and 2% of the segment's 2019 revenues. Such revenues are eliminated in consolidation and not included in the table below.

The following table sets forth the revenues for the distribution and services segment (dollars in thousands):

	Year Ended December 31,					
	2021	%	2020	%	2019	%
Service and parts	$ 813,875	88 %	$ 711,051	93 %	$ 939,246	75 %
Manufacturing	109,867	12	56,092	7	312,071	25
	$ 923,742	100 %	$ 767,143	100 %	$ 1,251,317	100 %

Commercial and Industrial Operations

The Company serves the marine, on-highway, power generation, and other commercial and industrial markets primarily in the United States. The commercial and industrial operations represented approximately 63% of the segment's 2021 revenues.

The Company is engaged in the overhaul and repair of medium-speed and high-speed marine diesel engines and reduction gears, line boring, block welding services and related parts sales for customers in the marine industry. Medium-speed diesel engines have an engine speed of 400 to 1,000 revolutions per minute ("RPM") with a horsepower range of 800 to 32,000. High-speed diesel engines have an engine speed of over 1,000 RPM and a horsepower range of 50 to 8,375. The Company services medium-speed and high-speed diesel engines utilized in the inland and offshore barge industries. It also services marine equipment and offshore drilling equipment used in the offshore petroleum exploration and oilfield service industry, marine equipment used in the offshore commercial fishing industry, harbor docking vessels, commercial ferries, vessels owned by the United States government and large pleasure crafts.

The Company has marine repair operations throughout the United States providing in-house and in-field repair capabilities and related parts sales. The Company's emphasis is on service to its customers, and it sends its crews from any of its locations to service customers' equipment anywhere in the world. The medium-speed operations are located in Houma, Louisiana, Houston, Texas, Chesapeake, Virginia, Paducah, Kentucky, Seattle, Washington, and Tampa, Florida, serving as the authorized distributor for EMD Power Products ("EMD") throughout the United States. The Company is also a distributor and representative for certain Alfa Laval products in the Midwest and on the East Coast, Gulf Coast, and West Coast. All of the marine locations are authorized distributors for Falk Corporation reduction gears and Oil States Industries, Inc. clutches. The Chesapeake, Virginia operation concentrates on East Coast inland and offshore dry-bulk, tank barge and harbor docking operators, and the United States government. The Houma, Louisiana operation concentrates on the inland and offshore barge and oilfield services industries. The Tampa, Florida operation concentrates on Gulf of Mexico offshore dry-bulk, tank barge and harbor docking operators. The Paducah, Kentucky operation concentrates on the inland river towboat and barge operators and the Great Lakes carriers. The Seattle, Washington operation concentrates on the offshore commercial fishing industry, the offshore barge industry, the United States government, and other customers in Alaska, Hawaii and the Pacific Rim.

The high-speed marine operations are located in Houston, Texas, Houma, Baton Rouge, Belle Chasse and New Iberia, Louisiana, Paducah, Kentucky, Mobile, Alabama, Lodi and Thorofare, New Jersey, and 10 locations in Florida. The Company serves as a factory-authorized marine dealer for Caterpillar diesel engines in multiple states. The Company also operates factory-authorized full service marine distributorships/dealerships for Cummins, Detroit Diesel, John Deere, MTU, and Volvo Penta, and Kohler diesel engines, as well as Falk, Lufkin and Twin Disc marine gears. High-speed diesel engines provide the main propulsion for a significant amount of the United States flagged commercial vessels and large pleasure craft vessels, other marine applications, including engines for power generators and barge pumps.

The Company distributes, sells parts for and services diesel engines and transmissions for on-highway use and provides in-house and in-field service capabilities. The Company is the largest on-highway distributor for Allison Transmission and Detroit Diesel/Daimler Truck North America, providing parts, service and warranty on engines, transmissions and related equipment in Arkansas, Colorado, Florida, Louisiana, New Mexico, New York, Oklahoma, Texas, Wyoming, and the country of Colombia. The Company also provides similar service for off-highway use and additionally has distributor rights for Deutz and Isuzu diesel engines. Off-highway applications are primarily surface and underground mining equipment, including loaders, crawlers, crushers, power screens, pumps, cranes, generators, and haul trucks, as well as equipment rental.

The Company is engaged in the overhaul and repair of diesel engines and generators, and related parts sales for power generation customers. The Company is also engaged in the sale and distribution of diesel engine parts, engine modifications, generator modifications, controls, governors and diesel generator packages to the nuclear industry. The Company services users of diesel engines that provide emergency standby, peak and base load power generation. The Company also sells power generation systems that are customized for specific applications and the rental of power generation systems.

The Company has power generation operations throughout the United States providing in-house and in-field repair capabilities and products for power generation applications. Through its Rocky Mount, North Carolina operation, the Company serves as the exclusive worldwide distributor of EMD products to the nuclear industry, the worldwide distributor for Woodward, Inc. products to the nuclear industry, the worldwide distributor of Cooper Machinery Services ("Cooper") products to the nuclear industry, and owns the assets and technology necessary to support the Nordberg medium-speed diesel engines used in nuclear applications. In addition, the Rocky Mount operation is an exclusive distributor for Norlake Manufacturing Company transformer products to the nuclear industry, an exclusive distributor of Hannon Company generator and motor products to the nuclear industry, and a non-exclusive distributor of analog Weschler Instruments metering products and an exclusive distributor of digital Weschler metering products to the nuclear industry. The Company is also a non-exclusive distributor of Ingersoll Rand air start equipment to the nuclear industry worldwide.

The Company sells pre-packaged and fabricated power generation systems for emergency, standby and auxiliary power for commercial and industrial applications. The Company also offers rental generator systems from 50 to 2,000 kilowatts of power to a broad range of customers. The Company also is engaged in the rental of industrial compressors, high capacity lift trucks, and refrigeration trailers. In addition, the Company provides accessory products such as cables, hoses, fuel cells, air dryers, air compressor boosters and ground heaters. Lastly, the Company is a dealer for Thermo King refrigeration systems for trucks, railroad cars and other land transportation markets in Texas and Colorado.

Commercial and Industrial Customers

The results of the distribution and services industry are largely tied to the industries it serves and, therefore, are influenced by the cycles of such industries. The Company's major marine customers include inland and offshore barge operators, oilfield service companies, offshore fishing companies, other marine transportation entities, the United States government and large pleasure crafts. Since the marine business is linked to the relative health of the inland towboat, offshore and coastal tugboat, harbor docking tugboat, offshore oilfield service, oil and gas drilling, offshore commercial fishing industries, Great Lakes ore vessels, dredging vessels, coastal ferries, United States government vessels and the pleasure craft industry, there is no assurance that its present gross revenues can be maintained in the future.

The Company's on-highway customers are long-haul and short-haul trucking companies, commercial and industrial companies with truck fleets, buses owned by municipalities and private companies. Off-highway companies include surface and underground mining operations with a large variety of equipment.

The Company's power generation customers are domestic utilities and the worldwide nuclear power industry, municipalities, universities, medical facilities, data centers, petrochemical plants, manufacturing facilities, shopping malls, office complexes, residential and other industrial users.

The Company's rental customers are primarily commercial and industrial companies, and residential customers with short-term rental requirements.

Commercial and Industrial Competitive Conditions

The Company's primary marine competitors are independent distribution and services companies and other factory-authorized distributors, authorized service centers and authorized marine dealers. Certain operators of diesel powered marine equipment also elect to maintain in-house service capabilities. While price is a major determinant in the competitive process, reputation, consistent quality, expeditious service, experienced personnel, access to parts inventories and market presence are also significant factors. A substantial portion of the Company's business is obtained by competitive bids. However, the Company has entered into service agreements with certain operators of diesel powered marine equipment, providing such operators with one source of support and service for all of their requirements at pre-negotiated prices.

The Company is one of a limited number of authorized resellers of EMD, Caterpillar, Cummins, Detroit Diesel, John Deere, MTU and Volvo Penta parts. The Company is also the marine distributor for Falk, Lufkin and Twin Disc reduction gears throughout the United States.

The Company's primary power generation competitors are other independent diesel service companies and manufacturers. While price is a major determinant in the competitive process, reputation, consistent quality, expeditious service, experienced personnel, access to parts inventories and market presence are also significant factors. A substantial portion of the Company's business is obtained by competitive bids.

As noted above, the Company is the exclusive worldwide distributor of EMD, Cooper, Woodward, Nordberg, Norlake and Hannon parts for the nuclear industry, and non-exclusive distributor of Weschler parts and Ingersoll Rand air start equipment for the nuclear industry. Specific regulations relating to equipment used in nuclear power generation require extensive testing and certification of replacement parts. OEM parts need to be properly tested and certified for nuclear applications.

Oil and Gas Operations

The Company is engaged in the distribution and service of high-speed diesel engines, pumps and transmissions, and the manufacture and remanufacture of oilfield service equipment. The oil and gas operations represented approximately 37% of the segment's 2021 revenues. The Company offers custom fabricated oilfield service equipment that is fully tested and field ready. The Company manufactures and remanufactures oilfield service equipment, including pressure pumping units, nitrogen pumping units, cementers, hydration equipment, mud pumps and blenders, coil tubing, well intervention equipment, electric power generation equipment, specialized electrical distribution and control equipment, and high capacity energy storage/battery systems. The Company sells OEM replacement parts, and sells and services diesel engines, electric drives, motors and controls, pumps and transmissions, and offers in-house and in-field service capabilities. The Company is the largest off-highway distributor for Allison Transmission and a major distributor for MTU in North America.

The Company's manufacturing and remanufacturing facilities and service facilities are based in Houston, Texas and Oklahoma City, Oklahoma, both key oil and gas producing regions.

Oil and Gas Customers

The Company’s major oil and gas customers include large and mid-cap oilfield service providers, oil and gas operators and producers. The Company has long standing relationships with most of its customers. Since the oil and gas business is linked to the oilfield services industry, and oil and gas operators and producers, there is no assurance that its present gross revenues can be maintained in the future. The results of the Company’s oil and gas distribution and services operations are largely tied to the industries it serves and, therefore, are influenced by the cycles of such industries.

Oil and Gas Competitive Conditions

The Company’s primary competitors are other oilfield equipment manufacturers and remanufacturers, and equipment service companies. While price is a major determinant in the competitive process, equipment availability, reputation, consistent quality, expeditious service, experienced personnel, access to parts inventories and market presence are also significant factors. A substantial portion of the Company’s business is obtained by competitive bids.

Properties

The principal office of the distribution and services segment is located in Houston, Texas. There are 62 active facilities in the distribution and services segment, of which 25 facilities are owned and 37 facilities are leased.

The oil and gas operation’s principal manufacturing facilities are located in Houston and Austin, Texas and Oklahoma City, Oklahoma, with one location leased and the other two facilities owned by the Company. The oil and gas focused operations have 17 parts and service facilities, with one in Arkansas, two in Colorado, three in Louisiana, one in New Mexico, one in Oklahoma, eight in Texas and one in Wyoming, with many of these facilities shared with the commercial and industrial operations.

The commercial and industrial businesses operate 42 parts and service facilities, with one facility in Alabama, one in Connecticut, one in Colorado, 11 in Florida, one in Kentucky, two in Louisiana, one in Massachusetts, one in Oklahoma, three in New Jersey, one in New York, one in North Carolina, 11 in Texas, one in Virginia, one in Washington and five facilities located in Colombia, South America.

Human Capital

Employment. The Company has approximately 5,125 employees, the large majority of whom are in the United States. The large majority of non-vessel employees work full-time. Vessel employees work varying schedules according to their assignments. The Company has approximately 130 general corporate employees. The Company supports its employees by providing competitive pay and benefits, training, and a respectful and inclusive culture.

The Company’s marine transportation segment has approximately 3,160 employees, of which approximately 2,485 are vessel crew members. None of the segment’s inland operations are subject to collective bargaining agreements. The segment’s coastal operations include approximately 500 vessel employees, some of which are subject to collective bargaining agreements in certain geographic areas. Approximately 230 Kirby Offshore Marine vessel crew members employed in the Atlantic Division are subject to a collective bargaining agreement with the Richmond Terrace Bargaining Unit in effect through August 31, 2022. In addition, approximately 100 vessel crew members of Penn Maritime Inc., a wholly owned subsidiary of Kirby Offshore Marine, are represented by the Seafarers International Union under a collective bargaining agreement in effect through April 30, 2022.

The Company’s distribution and services segment has approximately 1,835 employees. None of the United Holdings and Kirby Engine Systems operations are subject to collective bargaining agreements. Approximately 55 S&S employees in New Jersey are subject to a collective bargaining agreement with the Local 15C, International Union of Operating Engineers, AFL-CIO that expires in October 2023. The remaining S&S employees are not subject to collective bargaining agreements.

Training and Development. The Company strives to provide its employees with a rewarding work environment, including the opportunity for success and an opportunity for personal and professional development. The development of its people is a key factor in the Company's employee retention and satisfaction. Its technical and skill training has always been a differentiator and has facilitated the recruitment of new trainees.

For the marine business, the Company’s training facility includes state-of-the-art equipment and instruction aids, including a full bridge wheelhouse simulator, a working towboat, two tank barges, and a tank barge simulator for tankermen training. During 2021, approximately 950 certificates were issued for the completion of courses at the training facility, of which approximately 550 were USCG approved classes and the balance were employee development and Company required classes, including leadership, communication, and navigation courses. The Company uses the Seaman’s Church Institute as an additional training resource for its wheelhouse crewmembers. The marine segment provides a clear career progression for vessel personnel from entry level deckhand to captain and regularly reviews promotions from one level to another.

In distribution and services, Company facilitates training courses via online courses and instructor-led classes that cover a range of skill related topics generator knowledge, introduction to hydraulic systems, introduction to electrical diagrams, introduction to transformers, and Electrical Generation Systems Association journeyman study, as well as numerous courses led by its OEM partners. The distribution and services segment has multiple career progressions within its numerous job groups.

The Company's leadership and managerial training includes in-person and an on-line training curriculum that is available to both supervisory employees and those employees that aspire to move into such roles in the future. It includes a series of classes focused on management essentials which provide in-depth education in specific subjects such as leadership, strategic thinking, coaching and people development, decision making, problem solving, and communication.

In addition, the Company facilitates many training courses that cover a range of topics that enhance specific skill sets, increase productivity, and educate employees about safety and team morale across both business segments. Training classes include environmental, health, and safety classes, compliance, leadership, and general business skills related courses. Environmental, health, and safety topics include defensive and distracted driving, first aid basic and medical emergencies, global safety principles, oil management, and hazardous substances training. Compliance topics include anti-corruption training, cybersecurity awareness, business ethics, compliance, and promoting diversity. Skill related topics include business writing, risk-based thinking, initiating and planning a project, and transitioning into a project management role.

Diversity, Equity, and Inclusion. The Company has a diversity committee whose purpose is to continuously enhance workplace diversity. In 2019 and 2020, committee initiatives included training to help increase awareness and drive inclusive behaviors, identifying areas for improvement and providing oversight for hiring, promotions, and mentoring. In 2021, the Company instituted an organization-wide training initiative that expanded the understanding and awareness of diversity and inclusion. Over 5,000 employees successfully completed this training.

Succession Planning. Succession planning is a key responsibility of the CEO and Chief Human Resources Officer and is a critical annual process for the Company's senior management and its Board. Senior management reviews their succession plans regularly throughout the year and on an annual basis provides the Board an in-depth review of the top three levels of management. This process looks at qualifications, time in role, readiness to advance, diversity, and required development. The Board engages with many of these individuals through presentations on a variety of projects and subjects. The development initiatives undertaken with those in the succession plan may comprise of 360-degree feedback, high level post graduate work, targeted development work around strengthening a needed competency, or additional industry exposure.

Culture, Engagement, and Social Responsibility. The Company recognizes the importance of employee engagement and has implemented a regular process of surveying its employees to obtain their feedback on both what is working well and areas of improvement. One of the main take-aways from the 2021 survey was 90% of employees surveyed agree that Kirby is committed to Employee Safety, this was a 6% increase over the last survey. 85% of our employees believe our culture is responsible for high retention and low turnover. In addition, the survey reflected that employees are engaged and have pride in Kirby and they provided positive feedback on their relationships with their managers. In 2019 employees indicated they wanted more communication and this feedback led to specific initiatives including an increased use of town halls, both in person and virtual. Additionally, the responses to the 2019 survey resulted in a common set of values where a cross functional team was assembled to develop these values into what the Company now calls The Kirby Way. The Kirby Way is an amalgamation of Kirby’s Vision, Mission, Core Values, and Behavior Expectations. These are principles that have been communicated and are owned throughout the organization.

The Company provides its employees with a rewarding work environment, which includes access to resources for personal and professional development. The Company often participates in community organizations, service projects and matches employee charitable contributions. Through the Kirby Disaster Relief Fund, the Company supports employees in need following natural disasters and other qualified hardships. The Company provides employees with tuition reimbursement and college scholarships for to the children of employees. In addition to standard health and welfare benefits the Company offers wellness incentives and initiatives that encourages employees to receive an annual wellness checkup.

COVID-19 Pandemic Response. The Company responded to the COVID-19 pandemic in a manner consistent with its Core Values of Safety and People. The Company's response involved real time decision making needed to continue operations with the least amount of disruption for its customers. The Company implemented measures which included the use of protective equipment, health checks, temperature checks, travel restrictions, protocols for employees whose duties could not be accomplished through remote working arrangements, and implementing technology required for those that could work remotely.

Of the Company's 5,125 employees, approximately 1,000 could perform their work remotely. The Company implemented changes needed to cover people for certain additional medical costs that might occur and implemented a virtual telehealth option for those needing immediate care and medical advice. In addition, the Company implemented testing provisions, cleaning guidelines, social distancing, density reduction, and mask protocols. The Company modified scheduling to reduce travel and hotel exposure where practical.

Information about the Company's Executive Officers

The executive officers of the Company are as follows:

Name	Age	Positions and Offices
David W. Grzebinski	60	President and Chief Executive Officer
Raj Kumar	49	Executive Vice President and Chief Financial Officer
William G. Harvey	64	Executive Vice President
Christian G. O'Neil	49	President – Kirby Inland Marine, Kirby Offshore Marine, and San Jac Marine, LLC
Joseph H. Reniers	47	President – Kirby Distribution & Services, Inc.
Dorman L. Strahan	65	President – Kirby Engine Systems
Kim B. Clarke	66	Vice President and Chief Human Resources Officer
Ronald A. Dragg	58	Vice President, Controller and Assistant Secretary
Eric S. Holcomb	47	Vice President – Investor Relations
Amy D. Husted	53	Vice President, General Counsel and Secretary
Scott P. Miller	43	Vice President and Chief Information Officer
Kurt A. Niemietz	49	Vice President and Treasurer
William M. Woodruff	61	Vice President – Public and Governmental Affairs

No family relationship exists among the executive officers or among the executive officers and the directors. Officers are elected to hold office until the annual meeting of directors, which immediately follows the annual meeting of stockholders, or until their respective successors are elected and have qualified.

David W. Grzebinski is a Chartered Financial Analyst and holds a Master of Business Administration degree from Tulane University and a degree in chemical engineering from the University of South Florida. He has served as President and Chief Executive Officer since April 2014. He served as President and Chief Operating Officer from January 2014 to April 2014 and as Chief Financial Officer from March 2010 to April 2014. He served as Chairman of Kirby Offshore Marine from February 2012 to April 2013 and served as Executive Vice President from March 2010 to January 2014. Prior to joining the Company in February 2010, he served in various operational and financial positions since 1988 with FMC Technologies Inc. ("FMC"), including Controller, Energy Services, Treasurer, and Director of Global SAP and Industry Relations. Prior to joining FMC, he was employed by Dow Chemical Company in manufacturing, engineering and financial roles.

Raj Kumar is a member of CPA Australia and holds a Master of Business Administration degree from Columbia University in New York City and a Bachelor of Business in Accounting from Deakin University in Australia. He has served as Executive Vice President and Chief Financial Officer since November 2021. Prior to joining the Company, Mr. Kumar served as Vice President and Chief Financial Officer of Dril-Quip, Inc. from 2020 to 2021, Vice President and Chief Accounting Officer from 2019 to 2020, and Vice President and Treasurer from 2017 to 2019. Prior to joining Dril-Quip, he served as Vice President Finance at Franks International from 2015 to 2017. Prior to that, he served as a segment controller at LyondellBasell and in Division CFO, treasury, strategic planning and corporate development positions at FMC Technologies and Dell Technologies.

William G. Harvey is a Chartered Financial Analyst and holds a Master of Business Administration degree from the University of Toronto and a degree in mechanical engineering from Queens University. He has served as Executive Vice President since November 2021. He served as Executive Vice President and Chief Financial Officer from February 2018 to November 2021 and as Executive Vice President – Finance from January 2018 to February 2018. Prior to joining the Company, Mr. Harvey served as Executive Vice President and Chief Financial Officer of Walter Energy, Inc. from 2012 to 2017, Senior Vice President and Chief Financial Officer of Resolute Forest Products Inc. ("Resolute") from 2008 to 2011, and as Executive Vice President and Chief Financial Officer of Bowater Inc., a predecessor company of Resolute, from 2004 to 2008.

Christian G. O'Neil holds a Master of Business Administration degree from Rice University, a doctorate of jurisprudence from Tulane University and a bachelor of arts degree from Southern Methodist University. He has served as President of Kirby Inland Marine and Kirby Offshore Marine since January 2018 and as President of San Jac Marine, LLC since October 2018. He served as Executive Vice President and Chief Operating Officer of Kirby Inland Marine and Kirby Offshore Marine from May 2016 to January 2018. He also served as Executive Vice President – Commercial Operations of Kirby Inland Marine and Kirby Offshore Marine from April 2014 to May 2016, Vice President – Human Resources of the Company from May 2012 to April 2014, Vice President – Sales for Kirby Inland

Marine from 2009 to 2012 and President of Osprey from 2006 through 2008. He has also served in various sales and business development roles at the Company and Osprey. Prior to joining the Company, he served as Sales Manager and Fleet Manager at Hollywood Marine, Inc. ("Hollywood Marine") after joining Hollywood Marine in 1997 which was subsequently merged into the predecessor of Kirby Inland Marine.

Joseph H. Reniers holds a Master of Business Administration degree from the University of Chicago Booth School of Business and a degree in mechanical engineering from the United States Naval Academy. He has served the Company as President – Kirby Distribution & Services, Inc. since September 2017. He served as Executive Vice President – Diesel Engine Services and Supply Chain from May 2016 to September 2017, Senior Vice President – Diesel Engine Services and Marine Facility Operations from February 2015 to May 2016, Vice President – Strategy and Operational Service from April 2014 to February 2015, Vice President – Supply Chain from April 2012 to April 2014 and Vice President – Human Resources from March 2010 to April 2012. Prior to joining the Company, he was a management consultant with McKinsey & Company serving a wide variety of industrial clients. Prior to joining McKinsey, he served as a nuclear power officer in the Navy.

Dorman L. Strahan attended Nicholls State University and has served the Company as President of Kirby Engine Systems since May 1999, President of Marine Systems since 1986 and President of Engine Systems since 1996. After joining the Company in 1982 in connection with the acquisition of Marine Systems, he served as Vice President of Marine Systems until 1985.

Kim B. Clarke holds a Bachelor of Science degree from the University of Houston. She has served as Vice President and Chief Human Resources Officer since October 2017. She served as Vice President – Human Resources from December 2016 to October 2017. Prior to joining the Company, she served in senior leadership roles in human resources, safety, information technology and business development as Senior Vice President and Chief Administration Officer for Key Energy Services, Inc. from 2004 to March 2016.

Ronald A. Dragg is a Certified Public Accountant and holds a Master of Science in Accountancy degree from the University of Houston and a degree in finance from Texas A&M University. He has served the Company as Vice President, Controller and Assistant Secretary since April 2014. He also served as Vice President and Controller from January 2007 to April 2014, as Controller from November 2002 to January 2007, Controller – Financial Reporting from January 1999 to October 2002, and Assistant Controller – Financial Reporting from October 1996 to December 1998. Prior to joining the Company, he was employed by Baker Hughes Incorporated.

Eric S. Holcomb is a Certified Public Accountant and holds a Bachelor of Business Administration degree in accounting from Southern Methodist University. He has served the Company as Vice President – Investor Relations since December 2017. Prior to joining the Company, he was employed by Baker Hughes Incorporated from 2003 to December 2017 serving in various roles including Investor Relations Director, Finance Director for North America Land, Finance Director for North America Offshore and Finance Director for Canada.

Amy D. Husted holds a doctorate of jurisprudence from South Texas College of Law and a Bachelor of Science degree in political science from the University of Houston. She has served the Company as Vice President, General Counsel and Secretary since April 2019. She also served as Vice President and General Counsel from January 2017 to April 2019, Vice President – Legal from January 2008 to January 2017 and Corporate Counsel from November 1999 through December 2007. Prior to joining the Company, she served as Corporate Counsel of Hollywood Marine from 1996 to 1999 after joining Hollywood Marine in 1994.

Scott P. Miller holds a Bachelor of Science in Management of Information Systems from Louisiana State University and a Master of Business Administration degree from the University of Houston. He has served as Vice President and Chief Information Officer since April 2019. Prior to joining the Company, he was employed by Key Energy Services, Inc. from May 2006 to March 2019, serving in various senior leadership roles including Managing Director of Strategy, Vice President and Chief Information Officer from March 2013 to December 2015 and as Senior Vice President, Operations Services and Chief Administrative Officer from January 2016 to March 2019.

Kurt A. Niemietz holds a Master of Business Administration degree from St. Mary's University and a degree in accounting from the University of Texas at San Antonio. He has served as Vice President and Treasurer since April 2019. Prior to joining the Company, he was employed by Pacific Drilling from 2013 to 2019, serving in various roles of increasing responsibility, including Treasurer from 2017 to 2019, and in various financial positions with FMC, from 2006 to 2013. Prior to joining FMC, he was employed by Austin, Calvert & Flavin as a buy-side equity analyst.

William M. Woodruff holds a doctorate of jurisprudence from the University of Houston Law Center and a bachelor of science degree from Texas A&M University. He has served as Vice President – Public and Governmental Affairs since October 2017. He served as Director – Public & Government Affairs from 2014 to October 2017 after joining the Company as Director – Government Affairs in 2004. Prior to joining the Company, he was a maritime lawyer in private practice and Vice President and General Counsel of Coastal Towing, Inc.

Item 1A. ***Risk Factors***

In addition to the other information set forth elsewhere in this annual report, the following risk factors should be considered carefully when evaluating the Company, as its businesses, results of operations, or financial condition could be materially adversely affected by any of these risks. The following discussion does not attempt to cover factors, such as trends in the United States and global economies or the level of interest rates, among others, that are likely to affect most businesses.

Marine Transportation Segment Risk Factors

The Inland Waterway infrastructure is aging and may result in increased costs and disruptions to the Company's marine transportation segment. Maintenance of the United States inland waterway system is vital to the Company's operations. The system is composed of over 12,000 miles of commercially navigable waterway, supported by over 240 locks and dams designed to provide flood control, maintain pool levels of water in certain areas of the country and facilitate navigation on the inland river system. The United States inland waterway infrastructure is aging, with more than half of the locks over 50 years old. As a result, due to the age of the locks, scheduled and unscheduled maintenance outages may be more frequent in nature, resulting in delays and additional operating expenses. Currently, 35% of the cost of new construction and major rehabilitation of locks and dams is paid by marine transportation companies through a 29 cent per gallon diesel fuel tax and the remaining 65% of waterway infrastructure and improvement is paid from general federal tax revenues. Failure of the federal government to adequately fund infrastructure maintenance and improvements in the future would have a negative impact on the Company's ability to deliver products for its customers on a timely basis. In addition, any additional user taxes that may be imposed in the future to fund infrastructure improvements would increase the Company's operating expenses.

The Company could be adversely impacted by a marine accident or spill event. A marine accident or spill event could close a portion of the inland waterway system or a coastal area of the United States for an extended period of time. Although statistically marine transportation is the safest means of surface transportation of bulk commodities, accidents do occur, both involving Company equipment and equipment owned by other marine operators.

The Company transports a wide variety of petrochemicals, black oil, refined petroleum products and agricultural chemicals throughout the Mississippi River System, on the Gulf Intracoastal Waterway, and coastwise along all three United States coasts. The Company manages its exposure to losses from potential unauthorized discharges of pollutants through the use of well-maintained and equipped tank barges and towing vessels, through safety, training and environmental programs, and through the Company's insurance program, but a discharge of pollutants by the Company could have an adverse effect on the Company. Risks may arise for which the Company may not be insured. Claims covered by insurance are subject to deductibles, the aggregate amount of which could be material, and certain policies impose limitations on coverage. Existing insurance coverage may not be able to be renewed at commercially reasonable rates or coverage capacity for certain risks may not be available or adequate to cover future claims. If a loss occurs that is partially or completely uninsured, or the carrier is unable or unwilling to cover the claim, the Company could be exposed to liability.

The Company's marine transportation segment is dependent on its ability to adequately crew its towing vessels. The Company's vessels are crewed with employees who are licensed or certified by the USCG, including its captains, pilots, engineers and tankermen. The success of the Company's marine transportation segment is dependent on the Company's ability to adequately crew its vessels. As a result, the Company invests significant resources in training its crews and providing crew members an opportunity to advance from a deckhand to the captain of a Company towboat or tugboat. Inland crew members generally work rotations such as 20 days on, 10 days off rotation, or a 30 days on, 15 days off rotation. For the coastal fleet, crew members are generally required to work rotations such as 14 days on, 14 days off rotation, a 21 days on, 21 days off rotation or a 30 days on, 30 days off rotation, dependent upon the location. The nature of crewmember work schedules and assignments away from home for extended periods require special recruiting and at times it can be difficult to find candidates. With ongoing retirements and competitive labor pressure in the marine transportation segment, the Company continues to monitor and implement market competitive pay practices. The Company also utilizes an internal development program to train Maritime Academy graduates for vessel leadership positions.

The Company's marine transportation segment has approximately 3,160 employees, of which approximately 2,485 are vessel crew members. None of the segment's inland operations are subject to collective bargaining agreements. The segment's coastal operations include approximately 500 vessel employees, of whom approximately 330 are subject to collective bargaining agreements in certain geographic areas. Any work stoppages or labor disputes could adversely affect coastal operations in those areas. While the COVID-19 Delta and Omicron variants have caused some crewing issues, to date, the Company has been able to manage its operations with only limited vessel delays and disruption of services, including some loss of revenue and incremental costs in the Company's inland and coastal businesses. The Company continues to update its protocols relating to management of COVID-19 and provide related employee education as new information and guidance becomes available.

The Company's marine transportation segment is subject to the Jones Act. The Company's marine transportation segment competes principally in markets subject to the Jones Act, a federal cabotage law that restricts domestic marine transportation in the United States to vessels built and registered in the United States, and manned, owned and operated by United States citizens. The Company presently meets all of the requirements of the Jones Act for its owned and operated vessels. The loss of Jones Act status could have a significant negative effect on the Company. The requirements that the Company's vessels be United States built and manned by United States citizens, the crewing requirements and material requirements of the USCG, and the application of United States labor and tax laws increases the cost of United States flagged vessels compared to comparable foreign flagged vessels. The Company's business could be adversely affected if the Jones Act or international trade agreements or laws were to be modified or waived as to permit foreign flagged vessels to operate in the United States as these vessels are not subject to the same United States government imposed regulations, laws, and restrictions. Since the events of September 11, 2001, the United States government has taken steps to increase security of United States ports, coastal waters and inland waterways. The Company believes that it is unlikely that the current cabotage provisions of the Jones Act would be eliminated or significantly modified in a way that has a material adverse impact on the Company in the foreseeable future.

The Secretary of Homeland Security is vested with the authority and discretion to waive the Jones Act to such extent and upon such terms as the Secretary may prescribe whenever the Secretary deems that such action is necessary in the interest of national defense. On September 8, 2017, following Hurricanes Harvey and Irma, the Department of Homeland Security issued a waiver of the Jones Act for a 7-day period for shipments from New York, Pennsylvania, Texas and Louisiana to South Carolina, Georgia, Florida and Puerto Rico. The waiver was specifically tailored to address the transportation of refined petroleum products due to disruptions in hurricane-affected areas. On September 11, 2017, the waiver was extended for 11 days and expanded to include additional states. Following Hurricane Maria, on September 28, 2017, the Department of Homeland Security issued a waiver of the Jones Act for movement of products shipped from United States coastwise points to Puerto Rico through October 18, 2017. Two limited waivers of the Jones Act were granted in connection with the shutdown of the Colonial Pipeline in May 2021. Waivers of the Jones Act, whether in response to natural disasters or otherwise, could result in increased competition from foreign tank vessel operators, which could negatively impact the marine transportation segment.

The Company's marine transportation segment is subject to extensive regulation by the USCG, federal laws, other federal agencies, various state laws, the laws of other countries when operating in their waters, and certain international conventions, as well as numerous environmental regulations. The majority of the Company's vessels are subject to inspection by the USCG and carry certificates of inspection. The crews employed by the Company aboard vessels are licensed or certified by the USCG. The Company's marine transportation operations are subject to laws of other countries when operating in their waters. The Company is required by various governmental agencies to obtain licenses, certificates and permits for its owned and operated vessels. The Company's operations are also affected by various United States and state regulations and legislation enacted for protection of the environment. The Company incurs significant expenses and capital expenditures to comply with applicable laws and regulations and any significant new regulation or legislation, including climate change laws or regulations, could have an adverse effect on the Company.

The Company's marine transportation segment is subject to natural gas and crude oil prices as well as the volatility of their prices as well as the volatility in production of refined products and petrochemicals in the United States. For 2021, 50% of the marine transportation segment's revenues were from the movement of petrochemicals, including the movement of raw materials and feedstocks from one refinery or petrochemical plant to another, as well as the movement of more finished products to end users and terminals for export. As a result of the COVID-19 pandemic and petrochemical and refinery plant shutdowns, 2020 and 2021 petrochemical and refined products volumes decreased relative to 2019. Volumes began to recover in 2021 as economic activity improved. The United States petrochemical industry continues to benefit from a low-cost domestically produced natural gas feedstock advantage, producing strong volumes of raw materials and intermediate products for transportation between Gulf Coast petrochemical plants and the transportation of more finished products to terminals for both domestic consumers and for export destinations. In addition, nine new United States petrochemical projects, including expansion of existing plants, are scheduled to be completed during 2022, which should provide additional movements for the marine transportation segment. These increases are partially offset by a reduction in United States refining capacity since the beginning of the COVID-19 pandemic. During 2020, five refineries with a combined capacity of approximately 800,000 barrels per day were closed, of which three have been or are being converted to produce renewable diesel. In 2021, an additional refinery with a capacity of approximately 255,000 barrels per day was closed as a result of damages incurred from Hurricane Ida. Higher natural gas and crude oil prices are generally better for the Company's businesses; however, higher natural gas prices and other factors could negatively impact the United States petrochemical industry and its production volumes, which could negatively impact the Company.

Demand for tank barge transportation services is driven by the production of volumes of the bulk liquid commodities such as petrochemicals, black oil and refined petroleum products that the Company transports by tank barge. This production can depend on the prevailing level of natural gas and crude oil prices, as well as the volatility of their prices. In general, lower energy prices are good for the United States economy and typically translate into increased petrochemical and refined product demand and therefore increased demand for tank barge transportation services. However, during 2016 and 2017 lower crude oil prices resulted in a decline in domestic crude oil and natural gas condensate production and reduced volumes to be transported by tank barge. The Company estimates that at the beginning of 2015 there were approximately 550 inland tank barges and 35 coastal tank barges in the 195,000 barrels or less category transporting crude oil and natural gas condensate. By the end of 2019, the Company estimates that number of tank barges had declined to 335 inland tank barges and approximately five coastal tank barges transporting crude and natural gas condensate. During 2020, the

COVID-19 pandemic and oil price volatility resulted in a sharp decrease in volumes of crude and natural gas condensate being transported. As of the end of 2020, the Company estimates that approximately 100 to 150 inland tank barges and one coastal tank barge were transporting crude and natural gas condensate and at the end of 2021, approximately 160 to 170 inland tank barges and one coastal tank barge were transporting crude and natural gas condensate. Volatility in the price of natural gas and crude oil can also result in heightened uncertainty which may lead to decreased production and delays in new petrochemical and refinery plant construction. Increased competition for available black oil and petrochemical barge moves caused by reduced crude oil and natural gas condensate production could have an adverse impact on the Company's marine transportation segment including as a result of lower spot and term contract rates and/or reluctance to enter into or extend term contracts.

The Company's marine transportation segment could be adversely impacted by the construction of tank barges by its competitors. At the present time, there are an estimated 4,000 inland tank barges in the United States, of which the Company operates 1,025, or 26%. The number of tank barges peaked at an estimated 4,200 in 1982, slowly declined to 2,750 by 2003, and then gradually increased to an estimated 3,850 by the end of 2015 and 2016 and remained relatively flat since 2015. For 2019, the Company estimated that industry-wide 150 new tank barges were placed in service, of which none were by the Company, and 100 tank barges were retired, 17 of which were by the Company. For 2020, the Company estimated that industry-wide approximately 150 new tank barges were placed in service, six of which were purchased by the Company from another operator, and approximately 150 tank barges were retired, 95 of which were by the Company. For 2021, the Company estimated that industry-wide 70 new tank barges were placed in service, of which none were by the Company, and 90 tank barges were retired, 36 of which were by the Company. The Company estimates that approximately 5 to 10 new tank barges have currently been ordered for delivery in 2022 and expects a number of older tank barges will be retired, dependent on 2022 market conditions.

The long-term risk of an oversupply of inland tank barges may be mitigated by the fact that the inland tank barge industry has approximately 385 tank barges that are 30 years old or older and approximately 280 of those are 40 years old or older. Given the age profile of the industry inland tank barge fleet and extensive customer vetting standards, the expectation is that these older tank barges will continue to be removed from service and replaced by new tank barges as needed, with the extent of both retirements and new builds dependent on petrochemical and refinery production levels and crude oil and natural gas condensate movements, both of which can have a direct effect on industry-wide tank barge utilization, as well as term and spot contract rates.

During 2019, 2020, and 2021, a decline in industry-wide demand for the movement of crude oil and natural gas condensate transportation volumes increased available capacity and resulted in some reluctance among certain customers to extend term contracts, which led to an increase in the number of coastal vessels operating in the spot market. In addition, the Company and the industry added new coastal tank barge capacity during 2019, 2020, and 2021. Much of this new capacity is replacement capacity for older vessels anticipated to be retired.

The Company estimates there are approximately 270 tank barges operating in the 195,000 barrels or less coastal industry fleet, the sector of the market in which the Company operates, and approximately 20 of those are over 25 years old. The Company is aware of two coastal ATBs placed in service in 2019, one in 2020, and one small specialized coastal ATB in 2021 by competitors. There was one announced small specialized coastal ATB delivered in the first quarter of 2021, with no further coastal barges currently under construction.

Higher fuel prices could increase operating expenses and fuel price volatility could reduce profitability. The cost of fuel during 2021 was approximately 11% of marine transportation revenue. The Company's marine transportation term contracts typically include fuel escalation clauses, or the customer pays for the fuel. However, there is generally a 30 to 90 day delay before contracts are adjusted depending on the specific contract. In general, the fuel escalation clauses are effective over the long-term in allowing the Company to adjust to changes in fuel costs due to fuel price changes; however, the short-term effectiveness of the fuel escalation clauses can be affected by a number of factors including, but not limited to, specific terms of the fuel escalation formulas, fuel price volatility, navigating conditions, tow sizes, trip routing, and the location of loading and discharge ports that may result in the Company over or under recovering its fuel costs. The Company's spot contract rates generally reflect current fuel prices at the time the contract is signed but do not have escalators for fuel.

Significant increases in the construction cost of tank barges and towing vessels may limit the Company's ability to earn an adequate return on its investment in new tank barges and towing vessels. The price of steel, economic conditions, and supply and demand dynamics can significantly impact the construction cost of new tank barges and towing vessels. Over the last 20 years, the Company's average construction price for a new 30,000 barrel capacity inland tank barge has fluctuated up or down significantly. For example, the average construction price for a new 30,000 barrel capacity tank barge in 2009 was approximately 90% higher than in 2000, with increases primarily related to higher steel costs. During 2009, the United States and global recession negatively impacted demand levels for inland tank barges and as a result, the construction price of inland tank barges fell significantly in 2010, primarily due to a significant decrease in steel prices, as well as a decrease in the number of tank barges ordered. During 2020, at the onset of the COVID-19 pandemic, steel costs dropped, however, during 2021, steel prices rose above 2019 levels. These increases in steel costs and improvement in supply and demand dynamics resulted in construction prices for a new 30,000 barrel tank barge increasing compared to prices in 2017 when there was an industry-wide over-capacity of inland tank barges in the market.

The Company's marine transportation segment could be adversely impacted by the failure of the Company's shipyard vendors to deliver new vessels according to contractually agreed delivery schedules and terms. The Company contracts with shipyards to build new vessels and currently has many vessels under construction. Construction projects are subject to risks of delay and cost overruns, resulting from shortages of equipment, materials and skilled labor; lack of shipyard availability; unforeseen design and engineering problems; work stoppages; weather interference; unanticipated cost increases; unscheduled delays in the delivery of material and equipment; and financial and other difficulties at shipyards including labor disputes, shipyard insolvency and inability to obtain necessary certifications and approvals. A significant delay in the construction of new vessels or a shipyard's inability to perform under the construction contract could negatively impact the Company's ability to fulfill contract commitments and to realize timely revenues with respect to vessels under construction. Significant cost overruns or delays for vessels under construction could also adversely affect the Company's financial condition, results of operations and cash flows. To date, the Company has not experienced significant shipyard delays associated with the COVID-19 pandemic, including at its subsidiary, San Jac.

The Company is subject to competition in its marine transportation segment. The inland and coastal tank barge industry remains very fragmented and competitive. The Company's primary competitors are noncaptive inland tank barge operators and coastal operators. The Company also competes with companies who operate refined product and petrochemical pipelines, railroad tank cars and tractor-trailer tank trucks. Increased competition from any significant expansion of or additions to facilities or equipment by the Company's competitors could have a negative impact on the Company's results of operations. In addition, the Company's failure to adhere to its safety, reliability and performance standards may impact its ability to retain current customers or attract new customers.

Distribution and Services Segment Risk Factors

The Company's distribution and services segment could be adversely impacted by future legislation, executive or other governmental orders, or additional regulation of oil and gas extraction, including hydraulic fracturing practices. The Company, through its United and S&S subsidiaries, is a distributor and service provider of engine and transmission related products for the oil and gas services, power generation and transportation industries, and a manufacturer of oilfield service equipment, including pressure pumping units. The EPA is studying hydraulic fracturing practices, and legislation may be enacted by Congress that would authorize the EPA to impose additional regulations on hydraulic fracturing. In addition, a number of states have adopted or are evaluating the adoption of legislation or regulations governing hydraulic fracturing or byproducts of the fracturing process. On January 20, 2021, the Biden Administration issued a number of executive orders related to environmental matters that could affect the operations of the Company's customers, including an Executive Order on "Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis" seeking to adopt new regulations and policies to address climate change and suspend, revise, or rescind prior agency actions that are identified as conflicting with the Biden Administration's climate policies. Among the areas that could be affected by the review are regulations addressing methane emissions and the part of the extraction process known as hydraulic fracturing. Various legislative and regulatory initiatives have been proposed that, if passed, could limit or discourage future production of oil and gas. Federal or state legislation, executive or governmental orders, and/or regulations could materially impact customers' operations and greatly reduce or eliminate demand for the Company's pressure pumping fracturing equipment and related products. The Company is unable to predict whether future legislation or any other regulations will ultimately be enacted and, if so, the impact on the Company's distribution and services segment.

The Company's distribution and services segment could be adversely impacted by the construction of pressure pumping units by its competitors. In early 2015, an estimated 21 million horsepower of pressure pumping units were working, or available to work, in North America. By late 2016, the working horsepower in North America had declined to an estimated 6 million, with an estimated 2 million horsepower scrapped, an estimated 2 million horsepower available for work and an estimated 12.5 million horsepower stacked, the large majority of which would require major service before being placed back in service. A significant drop in demand due to the low price of crude oil resulted in an oversupply in the pressure pumping market and negatively impacted the Company's 2015 and 2016 results of operations. During 2017 and 2018, with the stabilization of crude oil prices in the $40 to $70 per barrel range, the United States land rig count improved and service intensity in the well completion business increased. As a result, the Company experienced a healthy rebound in service demand during 2018, particularly with pressure pumping unit remanufacturing and transmission overhauls, and with the acquisition of S&S in September 2017, the manufacture of oilfield service equipment, including pressure pumping units, and the sale of transmissions. At the end of 2019, an estimated 15 million horsepower of pressure pumping units were working in North America, with an estimated 6 million horsepower available to work, and 3 million horsepower stacked and in need of major repair. During 2020, a significant reduction in oilfield activity as a result of oil price volatility throughout 2019 and 2020 and the COVID-19 pandemic resulted in a decrease to an estimated 6 million horsepower of pressure pumping units working in North America, with an estimated 1.5 million horsepower available to work, and 12 million horsepower stacked and in need of major repair. At the end of 2021, strong commodity prices resulted in an increase to an estimated 12 million horsepower of pressure pumping units working in North America, with an estimated 8 million horsepower idled and in need of major repair. Increased expansion of, or additions to, facilities or equipment by the Company's competitors could have a negative impact on the Company's results of operations.

Prevailing natural gas and crude oil prices, as well as the volatility of their prices, could have an adverse effect on the distribution and services segment business. Lower energy prices generally result in a decrease in the number of oil and gas wells being drilled. Oilfield service companies reduce their capital spending, resulting in decreased demand for new parts and equipment, including pressure pumping units, provided by the Company's distribution and services segment. This may also lead to order cancellations from customers or customers requesting to delay delivery of new equipment. The Company also services offshore supply vessels and offshore drillings rigs operating in the Gulf of Mexico, as well as internationally. Low energy prices may negatively impact the number of wells drilled in the Gulf of Mexico and international waters. Prolonged downturns in oil and gas prices may cause substantial declines in oilfield service and exploration expenditures and could adversely impact oil and gas manufacturing, remanufacturing, parts and distribution business. In addition, energy price volatility may also result in difficulties in the Company's ability to ramp up and ramp down production on a timely basis and, therefore, could result in an adverse impact on the Company's distribution and services segment.

The Company is subject to competition in its distribution and services segment. The distribution and services industry is very competitive. The segment's oil and gas market's principal competitors are independent distribution and service and oilfield manufacturing companies and other factory-authorized distributors and service centers. In addition, certain oilfield service companies that are customers of the Company also manufacture and service a portion of their own oilfield equipment. Increased competition in the distribution and services industry and continued low price of natural gas, crude oil or natural gas condensate, and resulting decline in drilling for such natural resources in North American shale formations, could result in less oilfield equipment being manufactured and remanufactured, lower rates for service and parts pricing and result in less manufacturing, remanufacturing, service and repair opportunities and parts sales for the Company. For the commercial and industrial market, the segment's primary marine diesel competitors are independent diesel services companies and other factory-authorized distributors, authorized service centers and authorized marine dealers. Certain operators of diesel powered marine equipment also elect to maintain in-house service capabilities. For power generation, the primary competitors are other independent service companies.

Loss of a distributorship or other significant business relationship could adversely affect the Company's distribution and services segment. The Company's distribution and services segment has had a relationship with EMD, the largest manufacturer of medium-speed diesel engines, for 56 years. The Company, through Kirby Engine Systems, serves as both an EMD distributor and service center for select markets and locations for both service and parts. With the acquisition of S&S in September 2017, the Company added additional EMD exclusive distributorship rights in key states, primarily through the Central, South and Eastern areas of the United States. With the S&S acquisition, the Company became the United States distributor for EMD marine and power generation applications. Sales and service of EMD products account for approximately 3% of the Company's revenues for 2021. Although the Company considers its relationship with EMD to be strong, the loss of the EMD distributorship and service rights, or a disruption of the supply of EMD parts, could have a negative impact on the Company's ability to service its customers. In 2020, with the acquisition of Convoy Servicing Company and Agility Fleet Services, LLC, the Company expanded its dealership network of Thermo King refrigeration systems for trucks, railroad cars, and other land transportation markets in Texas and Colorado. In 2021, sales and service of Thermo King products comprised approximately 6% of the Company's revenues.

United and S&S have maintained continuous exclusive distribution rights for MTU and Allison since the 1940s. United and S&S are two of MTU's top five distributors of off-highway engines in North America, with exclusive distribution rights in multiple states. In addition, as distributors of Allison products, United and S&S have exclusive distribution rights in multiple key growth states. United and S&S are also the distributor for parts, service and warranty on Daimler truck engines and related equipment in multiple states. Sales and service of MTU, Allison, and Daimler products accounted for approximately 9% of the Company's revenues during 2021. Although the Company considers its relationships with MTU, Allison, and Daimler to be strong, the loss of MTU, Allison, or Daimler distributorships and service rights, or a disruption of the supply of MTU or Allison parts, could have a negative impact on the Company's ability to service its customers.

In addition to its relationships with MTU, Allison, and Daimler, the Company also has relationships with many other distributors and parts suppliers and the loss of a distributorship and service rights, or a disruption of the supply of parts from any of these other distributors or part suppliers could also have a negative impact on the Company's ability to service its customers.

General Corporate Risk Factors

The Company is subject to adverse weather conditions in its marine transportation and distribution and services segments. The Company's marine transportation segment is subject to weather condition volatility. Physical impacts of climate change could have a material adverse effect on the Company's costs and operations. There has been public discussion that climate change may be associated with rising sea levels as well as extreme weather conditions such as more intense hurricanes, thunderstorms, tornadoes, drought, and snow or ice storms. Extreme weather conditions may increase the Company's costs or cause damage to its facilities, and any damage resulting from extreme weather may not be fully insured. Many of the Company's facilities are located near coastal areas or waterways where rising sea levels or flooding could disrupt the Company's operations or adversely impact its facilities. Adverse weather conditions such as high or low water on the inland waterway systems, fog and ice, tropical storms, hurricanes, and tsunamis on both the inland waterway systems and throughout the United States coastal waters can impair the operating efficiencies of the marine fleet. Such adverse weather conditions can cause a delay, diversion or postponement of shipments of products and are totally beyond the control of the Company. Tropical storms and hurricanes may also impact the Company’s customers resulting in reduced demand for the Company’s services. In addition, adverse water and weather conditions can negatively affect a towing vessel’s performance, tow size, loading drafts, fleet efficiency, limit navigation periods and dictate horsepower requirements. The Company’s distribution and services segment is also subject to tropical storms and hurricanes impacting its coastal locations and those of its customers as well as tornados impacting its Oklahoma facilities. The risk of flooding as a result of hurricanes and tropical storms as well as other weather events may impede travel via roadways, suspend service work, and impact deliveries and the Company’s ability to fulfill orders or provide services in the distribution and services segment.

The Company may be unable to make attractive acquisitions or successfully integrate acquired businesses, and any inability to do so may adversely affect the Company’s business and hinder its ability to grow. The Company has made asset and business acquisitions in the past and may continue to make acquisitions of assets or businesses in the future that complement or expand the Company’s current business. The Company may not be able to identify attractive acquisition opportunities. Even if attractive acquisition opportunities are identified, the Company may not be able to complete the acquisition or do so on commercially acceptable terms. The success of any completed acquisition depends on the Company’s ability to integrate the acquired assets or business effectively into the Company’s existing operations. The process of integrating acquired assets or businesses may involve difficulties that require a disproportionate amount of the Company’s managerial and financial resources to resolve. The value of acquired assets or businesses may be negatively impacted by a variety of circumstances unknown to the Company prior to the acquisition. In addition, possible future acquisitions may be larger and for purchase prices significantly higher than those paid for earlier acquisitions. No assurance can be given that the Company will be able to identify additional suitable acquisition opportunities, negotiate acceptable terms, obtain financing for acquisitions on acceptable terms or successfully acquire identified targets. The Company’s failure to achieve synergies, to integrate successfully the acquired businesses and assets into the Company’s existing operations, or to minimize any unforeseen operational difficulties could have a material adverse effect on the Company’s business, financial condition, and results of operations. In addition, agreements governing the Company’s indebtedness from time to time may impose certain limitations on the Company’s ability to undertake acquisitions or make investments or may limit the Company’s ability to incur certain indebtedness and liens, which could limit the Company’s ability to make acquisitions.

The Company’s failure to comply with the Foreign Corrupt Practices Act (“FCPA”), or similar local applicable anti-bribery laws, could have a negative impact on its ongoing operations. The Company’s operations outside the United States require the Company to comply with both United States and international regulations. For example, in addition to any similar applicable local anti-bribery laws, the Company's operations in countries outside the United States are subject to the FCPA, which prohibits United States companies or their employees and third party representatives from providing anything of value to a foreign official for the purposes of influencing any act or decision of these individuals in their official capacity to help obtain or retain business, direct business to any person or corporate entity, or obtain any unfair advantage. The Company has internal control policies and procedures and has implemented training and compliance programs for its employees and third party representatives with respect to the FCPA. However, the Company’s policies, procedures and programs may not always protect it from reckless or criminal acts committed by its employees or third party representatives, and severe criminal or civil sanctions could be the result of violations of the FCPA or any other applicable anti-bribery law in countries where the Company does business. The Company is also subject to the risks that its employees, joint venture partners, and third party representatives outside of the United States may fail to comply with other applicable laws.

The Company is subject to risks associated with possible climate change legislation, regulation and international accords. Greenhouse gas emissions, including carbon emissions or energy use, have increasingly become the subject of a large amount of international, national, regional, state and local attention. Pursuant to an April 2007 decision of the United States Supreme Court, the EPA was required to consider if carbon dioxide was a pollutant that endangers public health. On December 7, 2009, the EPA issued its “endangerment finding” regarding greenhouse gasses under the CAA. The EPA found that the emission of six greenhouse gases, including carbon dioxide (which is emitted from the combustion of fossil fuels), may reasonably be anticipated to endanger public health and welfare. Based on this finding, the EPA defined the mix of these six greenhouse gases to be “air pollution” subject to regulation under the CAA. Although the EPA has stated a preference that greenhouse gas regulation be based on new federal legislation rather than the existing CAA, many sources of greenhouse gas emissions may be regulated without the need for further legislation.

The United States Congress has considered in the past legislation that would create an economy-wide “cap-and-trade” system that would establish a limit (or cap) on overall greenhouse gas emissions and create a market for the purchase and sale of emissions permits or “allowances.” Any proposed cap-and-trade legislation would likely affect the chemical industry due to anticipated increases in energy costs as fuel providers pass on the cost of the emissions allowances, which they would be required to obtain under cap-and-trade to cover the emissions from fuel production and the eventual use of fuel by the Company or its energy suppliers. In addition, cap-and-trade proposals would likely increase the cost of energy, including purchases of diesel fuel, steam and electricity, and certain raw materials used or transported by the Company. Proposed domestic and international cap-and-trade systems could materially increase raw material and operating costs of the Company’s customer base. Future environmental regulatory developments related to climate change in the United States that restrict emissions of greenhouse gases could result in financial impacts on the Company’s operations that cannot be predicted with certainty at this time.

In addition, current global trends incorporating carbon neutral policies and reduction in greenhouse gas emissions are driving decarbonization initiatives across all industries to mitigate the impact on climate change and may result in a decline in global and U.S. hydrocarbon usage. Such a decline in hydrocarbon usage (for example, as a result of an increase in electric vehicles) could result in a reduction in demand for (a) the Company's services in its marine transportation segment to the extent there is reduced demand for crude oil and other feedstocks used and the products produced by the Company's major refining customers and (b) for the Company's products and services in its distribution and services segment to the extent there is reduced demand in the exploration and production of hydrocarbons by the Company's oil and gas customers.

Loss of a large customer could adversely affect the Company. Five marine transportation customers accounted for approximately 17% of the Company's 2021, 18% of 2020 and 19% of 2019 revenue. The Company has contracts with these customers expiring in 2022 through 2026. Three distribution and services customers accounted for approximately 6% of the Company's 2021 revenue, 3% of 2020 revenue, and 12% of 2019 revenue. Although the Company considers its relationships with these companies to be strong, the loss of any of these customers, or their inability to meet financial obligations, could have an adverse effect on the Company.

The Company relies on critical operating assets including information systems for the operation of its businesses, and the failure of such assets or any critical information system, including as a result of natural disasters, terrorist acts, a cybersecurity attack, or other extraordinary events, may adversely impact its businesses. The Company is dependent on its critical operating assets and technology infrastructure and must maintain and rely upon critical information systems and security of its assets for the effective and safe operation of its businesses. These assets include vessels, vessel equipment, property and facilities, as well as information systems, such as software applications, hardware equipment, and data networks and telecommunications.

The Company's critical assets and information systems, including the Company's proprietary vessel management computer system, are subject to damage or interruption from a number of potential sources, including but not limited to, natural disasters, terrorist acts, cybersecurity attacks, software viruses, and power failures. In addition to standard safety operating procedures, the Company has implemented measures such as business continuity plans, hurricane preparedness plans, emergency recovery processes, and security preparedness plans to protect physical assets and to recover from damage to such assets. The Company has also implemented virus protection software, intrusion detection systems and annual attack and penetration audits to protect information systems to mitigate these risks. However, the Company cannot guarantee that its critical assets or information systems cannot be damaged or compromised.

Any damage or compromise of its critical assets or data security or its inability to use or access these critical assets and information systems could adversely impact the efficient and safe operation of its businesses, or result in the failure to safely operate its equipment, and maintain the confidentiality of data of its customers or its employees and could subject the Company to increased operating expenses or legal action, which could have an adverse effect on the Company.

Limitations on the Company's ability to obtain, maintain, protect, or enforce its proprietary information and any successful intellectual property challenges or infringement proceedings, including its trade secrets could affect the Company's competitive position. The Company's distribution and services businesses rely on a variety of intellectual property rights for its product and services. The Company's intellectual property could be adversely affected by successful intellectual property challenges or infringement proceedings against it which could materially and adversely affect its competitive position. The Company may also be adversely affected when its patents are unenforceable, where claims allowed are not sufficient to protect its technology or its trade secrets are not adequately protected. The Company's failure to protect its proprietary information and any successful challenges to the Company's intellectual property rights could have an adverse effect on the Company.

A deterioration of the Company's credit profile, disruptions of the credit markets or higher interest rates could restrict its ability to access the debt capital markets or increase the cost of debt. Deterioration in the Company's credit profile may have an adverse effect on the Company's ability to access the private or public debt markets and also may increase its borrowing costs. If the Company's credit profile deteriorates significantly its access to the debt capital markets or its ability to renew its committed lines of credit may become restricted, its cost of debt may increase, or the Company may not be able to refinance debt at the same levels or on the same terms. Because the Company relies on its ability to draw on its Revolving Credit Facility to support its operations as needed, any volatility in the credit and financial markets that prevents the Company from accessing funds on acceptable terms could have an adverse effect on the Company's financial condition and cash flows. Additionally, the pricing grids on Company's Revolving Credit Facility and Term Loan contain a ratings grid that includes a possible increase in borrowing rates if the Company's rating declines. Furthermore, the Company incurs interest under its Revolving Credit Facility based on floating rates. Floating rate debt creates higher debt service requirements if market interest rates increase, which would adversely affect the Company's cash flow and results of operations. In addition, as the floating rate on certain borrowings under the Revolving Credit Facility is tied to LIBOR, the uncertainty regarding the future of LIBOR as well as the transition from LIBOR to an alternate benchmark rate or rates could adversely affect the Company's financing costs.

Continuing widespread health developments, government imposed COVID-19 vaccine and/or testing mandates, and economic uncertainty resulting from the global COVID-19 pandemic could materially and adversely affect our business, financial condition and results of operations. In December 2019, COVID-19 surfaced in Wuhan, China. In response to the resulting pandemic, various countries, including the United States, either mandated or recommended business closures, travel restrictions or limitations, social distancing, and/or self-quarantine, among other restrictions. Additionally, various state and local governments in locations where the Company operates took similar actions. The situation continues to evolve as additional variants of the virus appear. Governments have removed, eased, reinstated, or implemented new restrictions in response to changing levels of infection and hospitalization rates. The full extent and duration of these impacts is unknown at this time, but there has been and continues to be a negative impact on the global and United States economies and supply chains, including the oil and gas industry, which has created delays and reduced demand for the Company's products and services and in some cases, resulted in delays in performance of its contracts with customers.

These impacts could continue to place limitations on the Company's ability to execute on its business plan and materially and adversely affect its business, financial condition and results of operations. Additionally, the Company may be exposed to legal liabilities as a result of, or arising out of, the impacts of COVID-19, such as allegations of breach of contract, failure to comply with governmental requirements, and employment related claims, among others. The Company continues to monitor the developments related to COVID-19, adapt its policies and procedures to address the situation, including its pandemic response plan and business continuity plan, and review contract and other legal risk. The Company also took steps to reduce costs. The impact of the COVID-19 pandemic may also exacerbate other risks discussed above, any of which could have a material effect on the Company. This situation continues to evolve and additional impacts may arise that the Company is not aware of currently.

Item 1B. ***Unresolved Staff Comments***

Not applicable.

Item 2. ***Properties***

The information appearing in Item 1 under "Marine Transportation– Properties" and "Distribution and Services– Properties" is incorporated herein by reference. The Company believes that its facilities are adequate for its needs and additional facilities would be available if required.

Item 3. ***Legal Proceedings***

See Note 14, Contingencies and Commitments to the Company's financial statements.

Item 4. ***Mine Safety Disclosures***

Not applicable.

PART II

Item 5. ***Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities***

The Company's common stock is traded on the New York Stock Exchange under the symbol KEX.

As of February 17, 2022, the Company had 60,201,000 outstanding shares held by approximately 480 stockholders of record; however, the Company believes the number of beneficial owners of common stock exceeds this number.

The Company does not have an established dividend policy. Decisions regarding the payment of future dividends will be made by the Board of Directors based on the facts and circumstances that exist at that time. Since 1989, the Company has not paid any dividends on its common stock. The Company's credit agreements contain covenants restricting the payment of dividends by the Company at any time when there is a default under the agreements.

Item 6. ***Reserved***

Item 7. ***Management's Discussion and Analysis of Financial Condition and Results of Operations***

Statements contained in this Form 10-K that are not historical facts, including, but not limited to, any projections contained herein, are forward-looking statements and involve a number of risks and uncertainties. Such statements involve risks and uncertainties. Such statements can be identified by the use of forward-looking terminology such as "may," "will," "expect," "anticipate," "estimate," or "continue," or the negative thereof or other variations thereon or comparable terminology. The actual results of the future events described in such forward-looking statements in this Form 10-K could differ materially from those stated in such forward-looking statements. Among the factors that could cause actual results to differ materially are: adverse economic conditions, industry competition and other competitive factors, adverse weather conditions such as high water, low water, tropical storms, hurricanes, tsunamis, fog and ice, tornados, COVID-19 or other pandemics, marine accidents, lock delays, fuel costs, interest rates, construction of new equipment by competitors, government and environmental laws and regulations, and the timing, magnitude and number of acquisitions made by the Company. For a more detailed discussion of factors that could cause actual results to differ from those presented in forward-looking statements, see Item 1A-Risk Factors. Forward-looking statements are based on currently available information and the Company assumes no obligation to update any such statements.

For purposes of Management's Discussion, all net earnings per share attributable to Kirby common stockholders are "diluted earnings (loss) per share." The weighted average number of common shares outstanding applicable to diluted earnings (loss) per share for 2021, 2020, and 2019 were 60,053,000, 59,912,000, and 59,909,000, respectively. Refer to the Company's Annual Report on Form 10-K for the year ended December 31, 2020 for management's discussion and analysis of financial condition and results of operations for 2020 compared to 2019.

Overview

The Company is the nation's largest domestic tank barge operator, transporting bulk liquid products throughout the Mississippi River System, on the Gulf Intracoastal Waterway, and coastwise along all three United States coasts. The Company transports petrochemicals, black oil, refined petroleum products and agricultural chemicals by tank barge. Through its distribution and services segment, the Company provides after-market service and parts for engines, transmissions, reduction gears, and related equipment used in oilfield services, marine, power generation, on-highway, and other industrial applications. The Company also rents equipment including generators, industrial compressors, and high capacity lift trucks, and refrigeration trailers for use in a variety of industrial markets, and manufactures and remanufactures oilfield service equipment, including pressure pumping units, manufactures cementing and pumping equipment as well as coil tubing and well intervention equipment, electric power generation equipment, specialized electrical distribution and control equipment, and high capacity energy storage/battery systems for oilfield service customers.

The following table summarizes key operating results of the Company (in thousands, except per share amounts):

	Year Ended December 31, 2021	2020	2019
Total revenues	$ 2,246,660	$ 2,171,408	$ 2,838,399
Net earnings (loss) attributable to Kirby	$ (246,954)	$ (272,546)	$ 142,347
Net earnings (loss) per share attributable to Kirby common stockholders – diluted	$ (4.11)	$ (4.55)	$ 2.37
Net cash provided by operating activities	$ 321,576	$ 444,940	$ 511,813
Capital expenditures	$ 98,015	$ 148,185	$ 248,164

The 2021 third quarter included $340,713,000 before taxes, $275,068,000 after taxes, or $4.58 per share, non-cash charges related to impairment of long-lived assets related to coastal marine transportation equipment and impairment of goodwill in the marine transportation segment. See Note 7, Impairments and Other Charges in the financial statements for additional information. The 2021 fourth quarter was also impacted by a one-time deferred tax provision of $5,656,000 or $0.09 per share related to a change in Louisiana tax law. See Note 9, Taxes on Income for additional information.

The 2020 first quarter included $561,274,000 before taxes, $433,341,000 after taxes, or $7.24 per share, non-cash charges related to inventory write-downs, impairment of long-lived assets, including intangible assets and property and equipment, and impairment of goodwill in the distribution and services segment. See Note 7, Impairments and Other Charges for additional information. In addition, the 2020 first quarter was favorably impacted by an income tax benefit of $50,824,000, or $0.85 per share related to net operating losses generated in 2018 and 2019 used to offset taxable income generated between 2013 and 2017. See Note 9, Taxes on Income for additional information.

The 2019 fourth quarter included $35,525,000 before taxes, $27,978,000 after taxes, or $0.47 per share, non-cash inventory write-downs and $4,757,000 before taxes, $3,747,000 after taxes, or $0.06 per share, severance and early retirement expense.

Cash provided by operating activities in 2021 decreased primarily due to lower revenues and operating income in the marine transportation segment, partially offset by the receipt of a tax refund of $119,493,000, including accrued interest, for the Company's 2019 federal tax return. During 2021, capital expenditures of $98,015,000 included $84,353,000 in the marine transportation segment and $13,662,000 in the distribution and services segment and corporate, more fully described under cash flow and capital expenditures below.

The Company projects that capital expenditures for 2022 will be in the $170,000,000 to $190,000,000 range. The 2022 construction program will consist of approximately $5,000,000 for the construction of new inland towboats, $145,000,000 to $155,000,000 primarily for maintenance capital and improvements to existing marine equipment and facilities, and $20,000,000 to $30,000,000 for new machinery and equipment, facilities improvements, and information technology projects in the distribution and services segment and corporate. Included in the Company's construction program is capital spending of approximately $11,000,000 for the construction of a diesel-electric towboat and repowering existing towboats expected to reduce emissions as compared to conventional engine systems of the Company's marine fleet. The Company has applied for and been awards grants from various government entities totaling approximately $3,800,000 related to certain of these emission reduction projects which it expects to receive reimbursements for in 2023.

The Company's debt-to-capitalization ratio decreased to 28.7% at December 31, 2021 from 32.2% at December 31, 2020, primarily due to repayments under the Revolving Credit Facility and Term Loan in 2021, partially offset by a decrease in total equity, primarily due to the net loss attributable to Kirby of $246,954,000. The Company's debt outstanding as of December 31, 2021 and December 31, 2020 is detailed in Long-Term Financing below.

Marine Transportation

The following table summarizes the Company's marine transportation fleet:

	December 31,	
	2021	2020
Inland tank barges:		
Owned	983	1,015
Leased	42	51
Total	1,025	1,066
Barrel capacity (in millions)	22.9	24.1
Active inland towboats (quarter average):		
Owned	211	210
Chartered	44	38
Total	255	248
Coastal tank barges:		
Owned	30	43
Leased	1	1
Total	31	44
Barrel capacity (in millions)	3.1	4.2
Coastal tugboats:		
Owned	26	40
Chartered	3	4
Total	29	44
Offshore dry-bulk cargo barges (owned)	4	4
Offshore tugboats and docking tugboat (owned and chartered)	5	5

The Company also owns shifting operations and fleeting facilities for dry cargo barges and tank barges on the Houston Ship Channel and in Freeport and Port Arthur, Texas, and Lake Charles, Louisiana, and a shipyard for building towboats and performing routine maintenance near the Houston Ship Channel, as well as a two-thirds interest in Osprey Line, L.L.C., which transports project cargoes and cargo containers by barge.

During 2021, the Company retired 36 inland tank barges and returned five leased barges. The net result was a decrease of 41 inland tank barges and approximately 1,210,000 barrels of capacity.

For 2021, 59% of the Company's revenues were generated by its marine transportation segment. The segment's customers include many of the major petrochemical and refining companies that operate in the United States. Products transported include intermediate materials used to produce many of the end products used widely by businesses and consumers — plastics, fibers, paints, detergents, oil additives and paper, among others, as well as residual fuel oil, ship bunkers, asphalt, gasoline, diesel fuel, heating oil, crude oil, natural gas condensate and agricultural chemicals. Consequently, the Company's marine transportation business is directly affected by the volumes produced by the Company's petroleum, petrochemical and refining customer base.

The Company's marine transportation segment's revenues for 2021 decreased 6% compared to 2020 and operating income decreased 61%, compared to 2020. The decreases for 2021 were primarily due to reduced term and spot pricing in the inland market when compared to 2020. The decrease in revenues was partially offset by the increase in the price of diesel fuel and the addition of the Savage Inland Marine, LLC ("Savage") fleet acquired on April 1, 2020. Revenues and operating income in 2021 were impacted by Hurricane Ida which shut down almost the entire Southeast Louisiana refinery and chemical complex and key waterways for an extended period of time during the third quarter. Winter Storm Uri also heavily impacted the 2021 first quarter with the shutdown of many Gulf Coast refineries and chemical plants for an extended period of time starting in mid-February. These emergency shutdowns resulted in significantly reduced liquids production and lower volumes for the Company's inland marine transportation market during the 2021 first quarter. The 2021 and 2020 first quarters were also impacted by poor operating conditions including seasonal wind and fog along the Gulf Coast, flooding on the Mississippi River, and various lock closures along the Gulf Intracoastal Waterway, in addition to ice on the Illinois River during the 2021 first quarter and increased shipyard days on large capacity coastal vessels during the 2020 first quarter. For 2021 and 2020, the inland tank barge fleet contributed 76% and 78%, respectively, and the coastal fleet contributed 24% and 22%, respectively, of marine transportation revenues.

During 2021 and 2020, reduced demand as a result of the COVID-19 pandemic and the resulting economic slowdown contributed to lower barge utilization. Inland tank barge utilization levels averaged in the mid-70% range during the 2021 first quarter, the low to mid-80% range during the 2021 second quarter, the low 80% range during the 2021 third quarter, and the mid-to high 80% range during the 2021 fourth quarter. The 2021 first quarter was impacted by reduced volumes as a result of Winter Storm Uri, whereas the 2021 second quarter was favorably impacted by the Colonial Pipeline outage in May. Subsequently, the third quarter was negatively impacted by Hurricane Ida. For 2020, inland tank barge utilization levels averaged in the low to mid-90% range during the first quarter, the mid-80% range during the second quarter, the low 70% range during the third quarter, and the high 60% range during the fourth quarter. The 2020 first quarter experienced strong demand from petrochemicals, black oil, and refined petroleum products customers prior to the onset of COVID-19. In addition, extensive delay days due to poor operating conditions and lock maintenance projects in the 2020 first quarter slowed the transport of customer cargoes and contributed to strong barge utilization.

Coastal tank barge utilization levels averaged in the mid-70% range during the 2021 first quarter, the low to mid-70% range during the 2021 second quarter, the mid-70% range during the 2021 third quarter, and the 90% range during the 2021 fourth quarter. The increase in coastal tank barge utilization during the 2021 fourth quarter was primarily due to the retirement of underutilized barges in the 2021 third quarter. In 2020, coastal tank barge utilization levels averaged in the low to mid-80% range during the first quarter and the mid-70% range during each of the second, third, and fourth quarters. Barge utilization in the coastal marine fleet continued to be impacted by the oversupply of tank barges in the coastal industry during 2021 and 2020.

During both 2021 and 2020, approximately 65% of the inland marine transportation revenues were under term contracts and 35% were spot contract revenues. These allocations provide the operations with a reasonably predictable revenue stream. Inland time charters, which insulate the Company from revenue fluctuations caused by weather and navigational delays and temporary market declines, represented 58% of the inland revenues under term contracts during 2021 compared to 66% during 2020. During 2021 and 2020, approximately 80% and 85%, respectively, of the coastal revenues were under term contracts and 20% and 15%, respectively, were spot contract revenues. Coastal time charters represented approximately 85% of coastal revenues under term contracts during 2021 compared to 90% during 2020. Term contracts have contract terms of 12 months or longer, while spot contracts have contract terms of less than 12 months.

The following table summarizes the average range of pricing changes in term and spot contracts renewed during 2021 compared to contracts renewed during the corresponding quarter of 2020:

	Three Months Ended			
	March 31, 2021	June 30, 2021	September 30, 2021	December 31, 2021
Inland market:				
Term increase (decrease)	(7)% – (9)%	(6)% – (8)%	(2)% – (4)%	10%
Spot increase (decrease)	(25)% – (30)%	(10)% – (15)%	No change	7% – 9%
Coastal market (a):				
Term increase (decrease)	No change	No change	No change	No change
Spot increase (decrease)	No change	No change	No change	No change

(a) Spot and term contract pricing in the coastal market are contingent on various factors including geographic location, vessel capacity, vessel type, and product serviced.

Effective January 1, 2021, annual escalators for labor and the producer price index on a number of inland multi-year contracts resulted in rate increases on those contracts of approximately 3%, excluding fuel.

The 2021 marine transportation operating margin was 4.8% compared to 11.7% for 2020.

Distribution and Services

The Company, through its distribution and services segment, sells genuine replacement parts, provides service mechanics to overhaul and repair engines, transmissions, reduction gears and related oilfield services equipment, rebuilds component parts or entire diesel engines, transmissions and reduction gears, and related equipment used in oilfield services, marine, power generation, on-highway and other industrial applications. The Company also rents equipment including generators, industrial compressors, and high capacity lift trucks, and refrigeration trailers for use in a variety of industrial markets, and manufactures and remanufactures oilfield service equipment, including pressure pumping units, manufactures cementing and pumping equipment as well as coil tubing and well intervention equipment, electric power generation equipment, specialized electrical distribution and control equipment, and high capacity energy storage/battery systems for oilfield service customers. The Company sells and manufactures various products, including those used in hydraulic fracturing and refrigeration systems, used in oil and gas and industrial applications that, as compared to conventional products, reduce emissions. These products made up approximately 10% of distribution and services segment revenues in 2021.

During 2021, the distribution and services segment generated 41% of the Company’s revenues, of which 88% was generated from service and parts and 12% from manufacturing. The results of the distribution and services segment are largely influenced by cycles of the oilfield service industry and oil and gas operator and producer markets, marine, power generation, on-highway and other industrial markets.

Distribution and services revenues for 2021 increased 20% compared to 2020 and operating income increased 326% compared to 2020. In the commercial and industrial market, the increases in 2021 compared to 2020 were primarily attributable to improved economic activity across the U.S. which resulted in higher business levels in the power generation and on-highway businesses. Increased product sales in Thermo King also contributed favorably to the 2021 results. The marine repair business was down slightly compared to 2020 due to reduced service activity. The commercial and industrial market 2021 results were also impacted by Winter Storm Uri with reduced activity levels at many locations across the Southern U.S. during the first quarter. For 2021 and 2020, the commercial and industrial market contributed 63% and 74%, respectively, of the distribution and services revenues.

In the oil and gas market, revenues improved compared to 2020 due to higher oilfield activity which resulted in increased demand for new and overhauled engines, transmissions, parts, and service. The manufacturing business also experienced increases in orders and deliveries of new and remanufactured pressure pumping equipment as well as power generation equipment for electric fracturing. For 2021 and 2020, the oil and gas market contributed 37% and 26%, respectively, of the distribution and services revenues.

The distribution and services operating margin for 2021 was 3.0% compared to (1.6)% for 2020.

Outlook

Although there are still some uncertainties surrounding the COVID-19 Omicron variant which is currently impacting the Company's operations, the Company expects both the marine transportation and distribution and services segments to deliver improved financial results in 2022.

The inland marine transportation market is expected to have favorable market conditions in 2022 with improved demand driven by continued economic growth, increased volumes from new petrochemical plants, and minimal new barge construction across the industry. Barge utilization is expected to range between the high 80% range and low 90% range, with an improving spot market, which currently represents approximately 35% of inland revenues. Term contracts renewed lower during the first three quarters of 2021, but rebounded in the fourth quarter and should reset higher during 2022 to reflect improved market conditions. Overall for 2022, inland revenues are expected to improve year-on-year with steady growth throughout the year as business improves and contracts renew. However, growth in the first quarter is expected to be modest due to the impact of winter weather and the COVID-19 Omicron variant which is causing crewing challenges, lost revenue, and incremental costs. Operating margins are expected to improve in 2022, with the first quarter being the lowest.

As of December 31, 2021, the Company estimated there were approximately 4,000 inland tank barges in the industry fleet, of which approximately 385 were 30 years old or older and approximately 280 of those were 40 years old or older. The Company estimates that approximately 5 to 10 new tank barges have currently been ordered for delivery in 2022 and expects a number of older tank barges will be retired, dependent on 2022 market conditions. Historically, 75 to 150 older inland tank barges are retired from service each year industry-wide. The extent of the retirements is dependent on petrochemical and refinery production levels, and crude oil and natural gas condensate movements, both of which can have a direct effect on industry-wide tank barge utilization, as well as term and spot contract rates.

In the coastal marine transportation market, customer demand is expected to modestly improve in 2022 as refined products and black oil transportation volumes continue to recover from the impact of the pandemic. However, pricing is expected to remain challenged due to underutilized barge capacity across the industry. The Company's coastal barge utilization is expected to be in the 90% range in 2022, driven primarily by modest improvement in the spot market and the Company's retirement of underutilized tank barges during the 2021 third quarter. Coastal revenues in 2022 are expected to decrease modestly compared to 2021, with the impact of the Company's exit from the Hawaii market and anticipated reductions in coal shipments being partially offset by modest improvement in spot market utilization. The 2022 first quarter is expected to be impacted by lost revenue and crewing issues related to the Omicron variant, and subsequent quarters are expected to be impacted by planned shipyard maintenance and ballast water treatment installations on certain vessels. Coastal operating margins during 2022 are expected to be similar to 2021 or slightly improved.

As of December 31, 2021, the Company estimated there were approximately 270 coastal tank barges operating in the 195,000 barrels or less industry fleet, the sector of the market in which the Company operates, and approximately 20 of those were over 25 years old. The Company is not aware of any new coastal tank barges that have been ordered.

The results of the distribution and services segment are largely influenced by the cycles of the oilfield service industry and oil and gas operator and producer markets, marine, power generation, on-highway and other industrial markets. Economic growth and strong oilfield fundamentals in 2022 are expected to improve activity levels and contribute to a sizeable year-over-year increase in revenues. In the commercial and industrial market, improving economic conditions and growth in key markets are expected to yield 2022 revenue growth with increased activity in power generation, marine repair, and on-highway.

In the distribution and services oil and gas market, higher commodity prices and increasing well completions activity are expected to improve demand for products and services in the distribution business. In manufacturing, a heightened customer focus on sustainability and the Company's current backlog for environmentally friendly pressure pumping and power generation equipment for electric fracturing is expected to result in significant revenue growth. However, due to ongoing supply chain issues, new equipment deliveries are expected to ramp slowly with the 2022 first quarter being the lowest of the year. Overall, operating margins in distribution and services are expected to improve as the year progresses. Operating margins for the 2022 first quarter are expected to be the lowest of the year due to the timing of projects and ongoing supply chain delays.

While the Company's outlook is dependent on developments regarding the COVID-19 pandemic and related supply chain constraints, the Company has maintained business continuity and expects to continue to do so.

Critical Accounting Policies and Estimates

The preparation of financial statements in conformity with United States generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. The Company evaluates its estimates and assumptions on an ongoing basis based on a combination of historical information and various other assumptions that are believed to be reasonable under the particular circumstances. Actual results may differ from these estimates based on different assumptions or conditions. The Company believes the critical accounting policies that most impact the consolidated financial statements are described below. It is also suggested that the Company’s significant accounting policies, as described in the Company’s financial statements in Note 1, Summary of Significant Accounting Policies, be read in conjunction with this Management’s Discussion and Analysis of Financial Condition and Results of Operations.

Accounts Receivable. The Company extends credit to its customers in the normal course of business. The Company regularly reviews its accounts and estimates the amount of uncollectible receivables each period and establishes an allowance for uncollectible amounts. The amount of the allowance is based on the age of unpaid amounts, information about the current financial strength of customers, and other relevant information. Estimates of uncollectible amounts are revised each period, and changes are recorded in the period they become known. Historically, credit risk with respect to these trade receivables has generally been considered minimal because of the financial strength of the Company's customers; however, a United States or global recession or other adverse economic condition could impact the collectability of certain customers' trade receivables which could have a material effect on the Company's results of operations.

Property, Maintenance and Repairs. Property is recorded at cost; improvements and betterments are capitalized as incurred. Depreciation is recorded using the straight-line method over the estimated useful lives of the individual assets. When property items are retired, sold, or otherwise disposed of, the related cost and accumulated depreciation are removed from the accounts with any gain or loss on the disposition included in the statement of earnings. Maintenance and repairs on vessels built for use on the inland waterways are charged to operating expense as incurred and includes the costs incurred in USCG inspections unless the shipyard extends the life or improves the operating capacity of the vessel which results in the costs being capitalized. The Company's ocean-going vessels are subject to regulatory drydocking requirements after certain periods of time to be inspected, have planned major maintenance performed and be recertified by the ABS. These recertifications generally occur twice in a five-year period. The Company defers the drydocking expenditures incurred on its ocean-going vessels due to regulatory marine inspections by the ABS and amortizes the costs of the shipyard over the period between drydockings, generally 30 or 60 months, depending on the type of major maintenance performed. Drydocking expenditures that extend the life or improve the operating capability of the vessel result in the costs being capitalized. Routine repairs and maintenance on ocean-going vessels are expensed as incurred. Interest is capitalized on the construction of new ocean-going vessels.

The Company performs an impairment assessment whenever events or changes in circumstances indicate that the carrying amount of long-lived assets may not be recoverable. If a triggering event is identified, the Company compares the carrying amount of the asset group to the estimated undiscounted future cash flows expected to result from the use of the asset group. If the carrying amount of the asset group exceeds the estimated undiscounted future cash flows, the Company measures the amount of the impairment by comparing the carrying amount of the asset group to its estimated fair value. Assets to be disposed of are reported at the lower of the carrying amount or fair value less costs to sell. There are many assumptions and estimates underlying the determination of an impairment event or loss, if any. The assumptions and estimates include, but are not limited to, estimated fair market value of the assets and estimated future cash flows expected to be generated by these assets, which are based on additional assumptions such as asset utilization, length of service the asset will be used, and estimated salvage values. Although the Company believes its assumptions and estimates are reasonable, deviations from the assumptions and estimates could produce a materially different result.

Goodwill. The excess of the purchase price over the fair value of identifiable net assets acquired in transactions accounted for as a purchase is included in goodwill. Management monitors the recoverability of goodwill on an annual basis, or whenever events or circumstances indicate that interim impairment testing is necessary. The amount of goodwill impairment, if any, is typically measured based on projected discounted future operating cash flows using an appropriate discount rate and valued based on the excess of a reporting unit's carrying amount over its fair value, incorporating all tax impacts caused by the recognition of the impairment loss. The assessment of the recoverability of goodwill will be impacted if estimated future operating cash flows are not achieved. There are many assumptions and estimates underlying the determination of an impairment event or loss, if any. Although the Company believes its assumptions and estimates are reasonable, deviations from the assumptions and estimates could produce a materially different result.

Accrued Insurance. The Company is subject to property damage and casualty risks associated with operating vessels carrying large volumes of bulk liquid and dry cargo in a marine environment. The Company maintains insurance coverage against these risks subject to a deductible, below which the Company is liable. In addition to expensing claims below the deductible amount as incurred, the Company also maintains a reserve for losses that may have occurred but have not been reported to the Company, or are not yet fully developed. The Company uses historic experience and actuarial analysis by outside consultants to estimate an appropriate level of accrued liabilities. If the actual number of claims and magnitude were substantially greater than assumed, the required level of accrued liabilities for claims incurred but not reported or fully developed could be materially understated. The Company records receivables from its insurers for incurred claims above the Company's deductible. If the solvency of the insurers became impaired, there could be an adverse impact on the accrued receivables and the availability of insurance.

Acquisitions

During 2021, the Company purchased four inland tank barges from a leasing company for $7,470,000 in cash. The Company had been leasing the barges prior to the purchase.

On October 4, 2021, the Company paid $1,645,000 in cash to purchase assets of an energy storage systems manufacturer based in Texas which have been key to the development of new power generation solutions for electric fracturing equipment.

During 2020, the Company purchased six newly constructed inland pressure barges for $39,350,000 in cash.

On April 1, 2020, the Company completed the acquisition of the inland tank barge fleet of Savage for $278,999,000 in cash. Savage's tank barge fleet consisted of 92 inland tank barges with approximately 2.5 million barrels of capacity and 45 inland towboats. The Savage assets that were acquired primarily move petrochemicals, refined products, and crude oil on the Mississippi River, its tributaries, and the Gulf Intracoastal Waterway. The Company also acquired Savage's ship bunkering business and barge fleeting business along the Gulf Coast.

On January 3, 2020, the Company completed the acquisition of substantially all the assets of Convoy for $37,180,000 in cash. Convoy is an authorized dealer for Thermo King refrigeration systems for trucks, railroad cars and other land transportation markets for North and East Texas and Colorado.

During the year ended December 31, 2019, the Company purchased, from various counterparties, a barge fleeting operation in Lake Charles, Louisiana and nine inland tank barges from leasing companies for an aggregate of $17,991,000 in cash. The Company had been leasing the barges prior to the purchases.

On March 14, 2019, the Company completed the acquisition of the marine transportation fleet of Cenac for $244,500,000 in cash. Cenac's fleet consisted of 63 inland 30,000 barrel tank barges with approximately 1,833,000 barrels of capacity, 34 inland towboats and two offshore tugboats. Cenac transported petrochemicals, refined products and black oil, including crude oil, residual fuels, feedstocks and lubricants on the lower Mississippi River, its tributaries, and the Gulf Intracoastal Waterway for major oil companies and refiners. The average age of the inland tank barges was approximately five years and the inland towboats had an average age of approximately seven years.

Financing of these purchases and acquisitions was through borrowings under the Company's Revolving Credit Facility and cash provided by operating activities.

Results of Operations

The following table sets forth the Company's marine transportation and distribution and services revenues and the percentage of each to total revenues for the comparable periods (dollars in thousands):

	Year Ended December 31,					
	2021	%	2020	%	2019	%
Marine transportation	$ 1,322,918	59 %	$ 1,404,265	65 %	$ 1,587,082	56 %
Distribution and services	923,742	41	767,143	35	1,251,317	44
	$ 2,246,660	100 %	$ 2,171,408	100 %	$ 2,838,399	100 %

Marine Transportation

The following table sets forth a year over year comparison of the Company's marine transportation segment's revenues, costs and expenses, operating income and operating margins (dollars in thousands):

	Year Ended December 31,				
	2021	2020	% Change	2019	% Change
Marine transportation revenues	$ 1,322,918	$ 1,404,265	(6)%	$ 1,587,082	(12)%
Costs and expenses:					
Costs of sales and operating expenses	924,380	907,119	2	1,034,758	(12)
Selling, general and administrative	119,017	111,182	7	122,202	(9)
Taxes, other than on income	30,527	35,528	(14)	34,538	3
Depreciation and amortization	185,979	186,798	—	179,742	4
	1,259,903	1,240,627	2	1,371,240	(10)
Operating income	$ 63,015	$ 163,638	(61)%	$ 215,842	(24)%
Operating margins	4.8 %	11.7 %		13.6 %	

The following table shows the marine transportation markets serviced by the Company, the marine transportation revenue distribution, products moved and the drivers of the demand for the products the Company transports:

Markets Serviced	2021 Revenue Distribution	Products Moved	Drivers
Petrochemicals	50%	Benzene, Styrene, Methanol, Acrylonitrile, Xylene, Naphtha, Caustic Soda, Butadiene, Propylene	Consumer non-durables — 70% Consumer durables — 30%
Black Oil	26%	Residual Fuel Oil, Coker Feedstock, Vacuum Gas Oil, Asphalt, Carbon Black Feedstock, Crude Oil, Natural Gas Condensate, Ship Bunkers	Fuel for Power Plants and Ships, Feedstock for Refineries, Road Construction
Refined Petroleum Products	20%	Gasoline, No. 2 Oil, Jet Fuel, Heating Oil, Diesel Fuel, Ethanol	Vehicle Usage, Air Travel, Weather Conditions, Refinery Utilization
Agricultural Chemicals	4%	Anhydrous Ammonia, Nitrogen-Based Liquid Fertilizer, Industrial Ammonia	Corn, Cotton and Wheat Production, Chemical Feedstock Usage

2021 Compared to 2020

Marine Transportation Revenues

Marine transportation revenues for 2021 decreased 6% compared to 2020. The decrease for 2021 was primarily due to reduced term and spot pricing in the inland market when compared to 2020. The decrease was partially offset by the increase in the price of diesel fuel and the addition of the Savage fleet acquired on April 1, 2020. Revenues in 2021 were impacted by Hurricane Ida which shut down almost the entire Southeast Louisiana refinery and chemical complex and key waterways for an extended period of time during the third quarter. Winter Storm Uri also heavily impacted the 2021 first quarter with the shutdown of many Gulf Coast refineries and chemical plants for an extended period of time starting in mid-February. These emergency shutdowns resulted in significantly reduced liquids production and lower volumes for the Company's inland marine transportation market during the 2021 first quarter. The 2021 and 2020 first quarters were also impacted by poor operating conditions including seasonal wind and fog along the Gulf Coast, flooding on the Mississippi River, and various lock closures along the Gulf Intracoastal Waterway, in addition to ice on the Illinois River during the 2021 first quarter and increased shipyard days on large capacity coastal vessels during the 2020 first quarter. For 2021 and 2020, the inland tank barge fleet contributed 76% and 78%, respectively, and the coastal fleet contributed 24% and 22%, respectively, of marine transportation revenues.

During 2021 and 2020, reduced demand as a result of the COVID-19 pandemic and the resulting economic slowdown contributed to lower barge utilization. Inland tank barge utilization levels averaged in the mid-70% range during the 2021 first quarter, the low to mid-80% range during the 2021 second quarter, the low 80% range during the 2021 third quarter, and the mid-to high 80% range during the 2021 fourth quarter. The 2021 first quarter was impacted by reduced volumes as a result of Winter Storm Uri, whereas the 2021 second quarter was favorably impacted by the Colonial Pipeline outage in May. Subsequently, the third quarter was negatively impacted by Hurricane Ida. For 2020, inland tank barge utilization levels averaged in the low to mid-90% range during the first quarter, the mid-80% range during the second quarter, the low 70% range during the third quarter, and the high 60% range during the fourth quarter. The 2020 first quarter experienced strong demand from petrochemicals, black oil, and refined petroleum products customers prior to the onset of COVID-19. In addition, extensive delay days due to poor operating conditions and lock maintenance projects in the 2020 first quarter slowed the transport of customer cargoes and contributed to strong barge utilization.

Coastal tank barge utilization levels averaged in the mid-70% range during the 2021 first quarter, the low to mid-70% range during the 2021 second quarter, the mid-70% range during the 2021 third quarter, and the 90% range during the 2021 fourth quarter. The increase in coastal tank barge utilization during the 2021 fourth quarter was primarily due to the retirement of underutilized barges in the 2021 third quarter. In 2020, coastal tank barge utilization levels averaged in the low to mid-80% range during the first quarter and the mid-70% range during each of the second, third, and fourth quarters. Barge utilization in the coastal marine fleet continued to be impacted by the oversupply of tank barges in the coastal industry during 2021 and 2020.

The petrochemical market, the Company's largest market, contributed 50% of marine transportation revenues for 2021, reflecting reduced volumes from Gulf Coast petrochemical plants for both domestic consumption and to terminals for export destinations as a result of the COVID-19 pandemic. During the 2021 first quarter, as much as 80% of U.S. chemical plant capacity was offline at the peak of Winter Storm Uri, contributing to significantly reduced volumes and revenues; however, volumes and revenues sequentially improved in the 2021 second quarter as chemical plants resumed full operations by May. During the 2021 third quarter, volumes declined again as numerous Louisiana chemical plants were shut down for an extended period of time as a result of Hurricane Ida.

The black oil market, which contributed 26% of marine transportation revenues for 2021, reflected reduced demand as refinery production levels and the export of refined petroleum products and fuel oils declined as a result of the COVID-19 pandemic. During the 2021 first quarter, U.S. refinery utilization dropped to near 40% during the peak of Winter Storm Uri, contributing to significantly reduced volumes and revenues. Although refinery utilization increased back to near 90% in the 2021 second quarter contributing to sequentially increased volumes and revenues, volumes declined again during the 2021 third quarter as Louisiana refineries were shut down for an extended period of time as a result of Hurricane Ida. During 2021, the Company continued to transport crude oil and natural gas condensate produced from the Permian Basin as well as reduced volumes from the Eagle Ford shale formation in Texas, both along the Gulf Intracoastal Waterway with inland vessels and in the Gulf of Mexico with coastal equipment. Additionally, the Company transported volumes of Utica natural gas condensate downriver from the Mid-Atlantic to the Gulf Coast and Canadian and Bakken crude downriver from the Midwest to the Gulf Coast.

The refined petroleum products market, which contributed 20% of marine transportation revenues for 2021, reflected lower volumes in both the inland and coastal markets as a result of reduced demand related to the COVID-19 pandemic. In addition, during the 2021 first quarter, U.S. refinery utilization dropped to near 40% during the peak of Winter Storm Uri, contributing to significantly reduced volumes and revenues. Although refinery utilization increased back to near 90% in the 2021 second quarter contributing to sequentially increased volumes and revenues, volumes declined again during the 2021 third quarter as Louisiana refineries were shut down for an extended period of time as a result of Hurricane Ida.

The agricultural chemical market, which contributed 4% of marine transportation revenues for 2021, saw modest reductions in demand for transportation of both domestically produced and imported products, primarily due to reduced demand associated with the COVID-19 pandemic.

For 2021, the inland operations incurred 9,605 delay days, 8% fewer than the 10,408 delay days that occurred during 2020. Delay days measure the lost time incurred by a tow (towboat and one or more tank barges) during transit when the tow is stopped due to weather, lock conditions, or other navigational factors. Delay days for 2021 and 2020 were impacted by hurricanes and tropical storms, poor operating conditions due to heavy wind and fog along the Gulf Coast, high water conditions on the Mississippi River System, and closures of key waterways, including the Gulf Intracoastal Waterway, due in part to lock maintenance projects.

During both 2021 and 2020, approximately 65% of the inland marine transportation revenues were under term contracts and 35% were spot contract revenues. These allocations provide the operations with a reasonably predictable revenue stream. Inland time charters, which insulate the Company from revenue fluctuations caused by weather and navigational delays and temporary market declines, represented 58% of the inland revenues under term contracts during 2021 compared to 66% during 2020. During 2021 and 2020, approximately 80% and 85%, respectively, of the coastal revenues were under term contracts and 20% and 15%, respectively, were spot contract revenues. Coastal time charters represented approximately 85% of coastal revenues under term contracts during 2021 compared to 90% during 2020.

The following table summarizes the average range of pricing changes in term and spot contracts renewed during 2021 compared to contracts renewed during the corresponding quarter of 2020:

	Three Months Ended			
	March 31, 2021	June 30, 2021	September 30, 2021	December 31, 2021
Inland market:				
Term increase (decrease)	(7)% – (9)%	(6)% – (8)%	(2)% – (4)%	10%
Spot increase (decrease)	(25)% – (30)%	(10)% – (15)%	No change	7% – 9%
Coastal market (a):				
Term increase (decrease)	No change	No change	No change	No change
Spot increase (decrease)	No change	No change	No change	No change

(a) Spot and term contract pricing in the coastal market are contingent on various factors including geographic location, vessel capacity, vessel type, and product serviced.

Effective January 1, 2021, annual escalators for labor and the producer price index on a number of inland multi-year contracts resulted in rate increases on those contracts of approximately 3%, excluding fuel.

Marine Transportation Costs and Expenses

Total costs and expenses for 2021 increased 2% compared to 2020. Costs of sales and operating expenses for 2021 increased 2% compared to 2020 primarily due to increased fuel costs, partially offset by cost reductions across the segment, including a reduction in towboats operated during 2021.

The inland marine transportation fleet operated an average of 250 towboats during 2021, of which an average of 35 were chartered, compared to 287 during 2020, of which an average of 52 were chartered. The decrease was primarily due to reduced horsepower requirements as a result of a smaller barge fleet, crewing issues associated with the COVID-19 Delta and Omicron variants, and reduced activity as a result of the impacts of Winter Storm Uri and Hurricane Ida. Generally, variability in demand or anticipated demand, as tank barges are added to or removed from the fleet, as chartered towboat availability changes, or as weather or water conditions dictate, the Company charters in or releases chartered towboats in an effort to balance horsepower needs with current requirements. The Company has historically used chartered towboats for approximately one-fourth of its horsepower requirements.

During 2021, the inland operations consumed 46.8 million gallons of diesel fuel compared to 47.5 million gallons consumed during 2020. The average price per gallon of diesel fuel consumed during 2021 was $2.13 per gallon compared to $1.41 per gallon for 2020. Fuel escalation and de-escalation clauses are typically included in term contracts and are designed to rebate fuel costs when prices decline and recover additional fuel costs when fuel prices rise; however, there is generally a 30 to 90 day delay before contracts are adjusted. Spot contracts do not have escalators for fuel.

Selling, general and administrative expenses for 2021 increased 7% compared to 2020. The increase is primarily due to higher incentive compensation accruals, medical costs, legal costs, and professional fees.

Taxes, other than on income, for 2021 decreased 14% compared to 2020. The decrease is primarily due to lower property taxes on marine transportation equipment.

Depreciation and amortization for 2021 decreased slightly compared to 2020. The decrease was primarily due to retirements of marine equipment, partially offset by the full year impact of the Savage fleet which was acquired in April 2020.

Marine Transportation Operating Income and Operating Margins

Marine transportation operating income for 2021 decreased 61% compared to 2020. The operating margin was 4.8% for 2021 compared to 11.7% for 2020. The decreases in operating income and operating margin were primarily due to decreased term and spot contract pricing in the inland market, as a result of a reduction in demand due to the COVID-19 pandemic and reduced volumes as a result of Hurricane Ida and Winter Storm Uri. Operating margin for 2021 was also impacted by the increased cost of diesel fuel.

Distribution and Services

The following table sets forth a year over year comparison of the Company's distribution and services segment's revenues, costs and expenses, operating income (loss) and operating margins (dollars in thousands):

	Year Ended December 31,				
	2021	2020	% Change	2019	% Change
Distribution and services revenues	$ 923,742	$ 767,143	20 %	$ 1,251,317	(39)%
Costs and expenses:					
Costs of sales and operating expenses	728,855	604,238	21	995,288	(39)
Selling, general and administrative	141,100	140,449	—	145,473	(3)
Taxes, other than on income	5,607	6,392	(12)	7,357	(13)
Depreciation and amortization	20,573	28,255	(27)	35,998	(22)
	896,135	779,334	15	1,184,116	(34)
Operating income (loss)	$ 27,607	$ (12,191)	326 %	$ 67,201	(118)%
Operating margins	3.0 %	(1.6)%		5.4 %	

The following table shows the markets serviced by the Company, the revenue distribution, and the customers for each market:

Markets Serviced	2021 Revenue Distribution	Customers
Commercial and Industrial	63%	Inland River Carriers — Dry and Liquid, Offshore Towing — Dry and Liquid, Offshore Oilfield Services — Drilling Rigs & Supply Boats, Harbor Towing, Dredging, Great Lakes Ore Carriers, Pleasure Crafts, On and Off-Highway Transportation, Power Generation, Standby Power Generation, Pumping Stations
Oil and Gas	37%	Oilfield Services, Oil and Gas Operators and Producers

2021 Compared to 2020

Distribution and Services Revenues

Distribution and services revenues for 2021 increased 20% compared to 2020. In the commercial and industrial market, the increase was primarily attributable to improved economic activity across the U.S. which resulted in higher business levels in the power generation and on-highway businesses. Increased product sales in Thermo King also contributed favorably to the 2021 results. The marine repair business was down slightly compared to 2020 due to reduced service activity. The commercial and industrial market 2021 results were also impacted by Winter Storm Uri with reduced activity levels at many locations across the Southern U.S. during the first quarter. For 2021 and 2020, the commercial and industrial market contributed 63% and 74%, respectively, of the distribution and services revenues.

The oil and gas market revenues increase compared to 2020 primarily due to higher oilfield activity which resulted in increased demand for new and overhauled engines, transmissions, parts, and service. The manufacturing business also experienced increases in orders and deliveries of new and remanufactured pressure pumping equipment as well as power generation equipment for electric fracturing. For 2021 and 2020, the oil and gas market contributed 37% and 26%, respectively, of the distribution and services revenues.

Distribution and Services Costs and Expenses

Total costs and expenses for 2021 increased 15% compared to 2020 reflecting the 21% increase in costs of sales and operating expenses, reflecting higher demand in the on-highway and power generation businesses in the commercial and industrial markets in 2021. The increase also reflects higher demand for new and overhauled transmissions and related parts and service and increased demand for new pressure pumping equipment in the oil and gas market.

Selling, general and administrative expenses for 2021 increased slightly compared to 2020. The increase was primarily due to increased incentive compensation accruals during 2021, medical costs, and warranty costs, partially offset by a bad debt expense charge of $3,339,000 as a result of the bankruptcy of a large oil and gas customer, and $1,354,000 of severance expense as a result of continued workforce reductions, each recorded during the 2020 second quarter.

Depreciation and amortization for 2021 decreased 27% compared to 2020. The decrease was primarily due to lower amortization of intangible assets other than goodwill, which had been impaired during the 2020 first quarter and certain equipment and leasehold improvements acquired from Stewart & Stevenson LLC that became fully depreciated during 2020 and 2021.

Distribution and Services Operating Income (Loss) and Operating Margins

Operating income for the distribution and services segment for 2021 increased 326% compared to 2020. The operating margin was 3.0% for 2021 compared to (1.6)% for 2020. The results reflect increased business levels in both the commercial and industrial and oil and gas markets and a return to profitability, partially offset by higher costs and expenses due to increased activity levels.

General Corporate Expenses

General corporate expenses for 2021, 2020, and 2019 were $13,803,000, $11,050,000 and $13,643,000, respectively. General corporate expenses were higher in 2021 than 2020 primarily due to higher incentive compensation accruals and costs related to Hurricane Ida.

Gain on Disposition of Assets

The Company reported net gains on disposition of assets of $5,761,000, $118,000, and $8,152,000 in 2021, 2020, and 2019, respectively. The net gains were predominantly from the sales or retirements of marine equipment and distribution and services facilities.

Other Income and Expenses

The following table sets forth a year over year comparison of impairments and other charges, other income, noncontrolling interests, and interest expense (dollars in thousands):

	Year Ended December 31,				
	2021	2020	% Change	2019	% Change
Impairments and other charges	$ (340,713)	$ (561,274)	(39)%	$ (35,525)	1,480%
Other income	$ 10,001	$ 8,147	23%	$ 3,787	115%
Noncontrolling interests	$ (183)	$ (954)	(81)%	$ (672)	42%
Interest expense	$ (42,469)	$ (48,739)	(13)%	$ (55,994)	(13)%

Impairments and Other Charges

For 2021, impairments and other charges includes $340,713,000 before taxes, $275,068,000 after taxes, or $4.58 per share, non-cash charges related to impairment of long-lived assets related to coastal marine transportation equipment and impairment of goodwill in the marine transportation segment.

For 2020, impairments and other charges includes $561,274,000 before taxes, $433,341,000 after taxes, or $7.24 per share, non-cash charges related to inventory write-downs, impairment of long-lived assets, including intangible assets and property and equipment, and impairment of goodwill in the distribution and services segment.

See Note 7, Impairments and Other Charges for additional information.

Other Income

Other income for 2021, 2020, and 2019 includes income of $8,175,000, $6,186,000 and $3,454,000, respectively, for all components of net benefit costs except the service cost component related to the Company's defined benefit plans.

Interest Expense

The following table sets forth average debt, average interest rate, and capitalized interest excluded from interest expense (dollars in thousands):

	Year Ended December 31,		
	2021	2020	2019
Average debt	$ 1,293,446	$ 1,567,523	$ 1,502,044
Average interest rate	3.2%	3.1%	3.7%
Capitalized interest	$ —	$ —	$ 1,003

Interest expense for 2021 decreased 13% compared to 2020, primarily due to lower average debt outstanding as a result of debt repayments since the 2020 first quarter.

(Provision) Benefit for Taxes on Income

On November 13, 2021, the voters of the state of Louisiana approved a constitutional amendment that removed the corporate tax deduction for federal income taxes paid and lowered the corporate income tax rate from 8% to 7.5% effective January 1, 2022. The result of the amendment was an increase in the effective Louisiana state income tax rate, net of deduction for federal income tax, from 6.3% to 7.5%. As a result of the amendment, the Company recognized a one-time deferred tax provision of $5,656,000 during the fourth quarter of 2021 due to remeasuring the Company's Louisiana and U.S. deferred tax assets and liabilities based on the new effective Louisiana state income tax rate.

During 2020, pursuant to provisions of the Coronavirus Aid, Relief, and Economic Security Act ("CARES Act"), net operating losses generated during 2018 through 2020 were used to offset taxable income generated between 2013 through 2017. Net operating losses carried back to tax years 2013 through 2017 were applied at the higher federal statutory tax rate of 35% compared to the statutory rate of 21% in effect at December 31, 2020. The Company generated an effective tax rate benefit in 2020 as a result of such carrybacks.

Financial Condition, Capital Resources and Liquidity

Balance Sheet

The following table sets forth a year over year comparison of the significant components of the balance sheets (dollars in thousands):

	December 31,				
	2021	2020	% Change	2019	% Change
Assets:					
Current assets	$ 1,003,865	$ 1,047,971	(4)%	$ 917,579	14%
Property and equipment, net	3,678,515	3,917,070	(6)	3,777,110	4
Operating lease right-of-use assets	167,730	174,317	(4)	159,641	9
Investment in affiliates	2,134	2,689	(21)	2,025	33
Goodwill	438,748	657,800	(33)	953,826	(31)
Other intangibles, net	60,070	68,979	(13)	210,682	(67)
Other assets	48,001	55,348	(13)	58,234	(5)
	$ 5,399,063	$ 5,924,174	(9)%	$ 6,079,097	(3)%
Liabilities and stockholders' equity:					
Current liabilities	$ 543,772	$ 466,032	17%	$ 514,115	(9)%
Long-term debt, net — less current portion	1,161,433	1,468,546	(21)	1,369,751	7
Deferred income taxes	574,152	606,844	(5)	588,204	3
Operating lease liabilities — less current portion	159,672	163,496	(2)	139,457	17
Other long-term liabilities	71,252	131,703	(46)	95,978	37
Total equity	2,888,782	3,087,553	(6)	3,371,592	(8)
	$ 5,399,063	$ 5,924,174	(9)%	$ 6,079,097	(3)%

2021 Compared to 2020

Current assets as of December 31, 2021 decreased 4% compared to December 31, 2020. Trade accounts receivable increased 33% primarily due to increased business activity in both the marine transportation and distribution and services segments during the 2021 fourth quarter, compared to the 2020 fourth quarter. Other accounts receivable decreased 47%, primarily due to the receipt of a tax refund of $119,493,000 including accrued interest in 2021, for the Company's 2019 federal tax return. Inventories increased by 7% primarily due to a buildup in the distribution and services segment for projects that will deliver in 2022. Prepaid expenses and other current assets increased 21%, primarily due to the increase in the price of diesel fuel and the reclassification of certain coastal marine transportation equipment to held for sale.

Property and equipment, net of accumulated depreciation, at December 31, 2021 decreased 6% compared to December 31, 2020. The decrease reflected $205,960,000 of depreciation expense, $142,014,000 of property disposals, including the sale of the Hawaii marine transportation equipment, and retirement of underutilized equipment that was reclassified to held for sale, and $15,430,000 of impairment charges related to coastal marine transportation equipment held and used, partially offset by $116,648,000 of capital additions (including an increase in accrued capital expenditures) and $8,201,000 primarily related to the acquisition of four inland tank barges during 2021, more fully described under Cash Flows and Capital Expenditures below.

Operating lease right-of-use assets as of December 31, 2021 decreased 4% compared to December 31, 2020, primarily due to lease amortization expense and impairment charges, partially offset by new leases acquired.

Goodwill as of December 31, 2021 decreased 33% compared to December 31, 2020, due to a goodwill impairment in the marine transportation segment.

Other intangibles, net, as of December 31, 2021 decreased 13% compared to December 31, 2020, primarily due to amortization.

Other assets as of December 31, 2021 decreased 13% compared to December 31, 2020, primarily due to amortization of drydock expenditures.

Current liabilities as of December 31, 2021 increased 17% compared to December 31, 2020. Accounts payable increased 23%, primarily due to higher business activity levels and an increase in accrued capital expenditures. Accrued liabilities increased 5%, primarily due to higher accrued incentive compensation during 2021 and higher warranty reserves. Deferred revenues increased 60%, primarily due to deposits on equipment expected to be shipped in 2022 in the distribution and services segment.

Long-term debt, net – less current portion, as of December 31, 2021 decreased 21% compared to December 31, 2020, primarily reflecting repayments of $250,000,000 and $60,000,000 under the Revolving Credit Facility and Term Loan, respectively. Net debt discounts and deferred issuance costs were $3,567,000 (excluding $1,403,000 attributable to the Revolving Credit Facility included in other assets on the balance sheet) at December 31, 2021 and $6,454,000 at December 31, 2020.

Deferred income taxes as of December 31, 2021 decreased 5% compared to December 31, 2020, primarily reflecting the 2021 deferred tax benefit of $44,419,000.

Operating lease liabilities – less current portion, as of December 31, 2021 decreased 2% compared to December 31, 2020, primarily due to lease payments made, partially offset by new leases acquired and liability accretion.

Other long-term liabilities as of December 31, 2021 decreased 46% compared to December 31, 2020, primarily due to amortization of intangible liabilities, a decrease in pension liabilities due to an improved funded position, and the payment of accrued payroll taxes deferred under provisions of the CARES Act.

Total equity as of December 31, 2021 decreased 6% compared to December 31, 2020, primarily due to a net loss attributable to Kirby of $246,954,000 for 2021 and tax withholdings of $2,856,000 on restricted stock and RSU vestings, partially offset by an increase in additional paid-in capital due to amortization of unearned share-based compensation of $15,713,000.

Retirement Plans

The Company sponsors a defined benefit plan for its inland vessel personnel and shore based tankermen. The plan benefits are based on an employee's years of service and compensation. The plan assets consist primarily of equity and fixed income securities. The Company's pension plan funding strategy is to make annual contributions in amounts equal to or greater than amounts necessary to meet minimum government funding requirements. No pension contributions were made in 2021, 2020 or 2019. The fair value of plan assets was $394,395,000 and $357,801,000 at December 31, 2021 and December 31, 2020, respectively.

On April 12, 2017, the Company amended its pension plan to cease all benefit accruals for periods after May 31, 2017 for certain participants. Participants grandfathered and not impacted were those, as of the close of business on May 31, 2017, who either (a) had completed 15 years of pension service or (b) had attained age 50 and completed 10 years of pension service. Participants non-grandfathered are eligible to receive discretionary 401(k) plan contributions.

On February 14, 2018, with the acquisition of Higman, the Company assumed Higman's pension plan for its inland vessel personnel and office staff. On March 27, 2018, the Company amended the Higman pension plan to close it to all new entrants and cease all benefit accruals for periods after May 15, 2018 for all participants. The Company made contributions to the Higman pension plan of $479,000 in 2021, $797,000 in 2020 for the 2019 plan year, $1,438,000 in 2020 for the 2020 plan year, $1,615,000 in 2019 for the 2018 plan year, and $1,449,000 in 2019 for the 2019 plan year. The fair value of plan assets was $36,426,000 and $37,336,000 at December 31, 2021 and December 31, 2020, respectively.

The Company's investment strategy focuses on total return on invested assets (capital appreciation plus dividend and interest income). The primary objective in the investment management of assets is to achieve long-term growth of principal while avoiding excessive risk. Risk is managed through diversification of investments within and among asset classes, as well as by choosing securities that have an established trading and underlying operating history.

The Company makes various assumptions when determining defined benefit plan costs including, but not limited to, the current discount rate and the expected long-term return on plan assets. Discount rates are determined annually and are based on a yield curve that consists of a hypothetical portfolio of high quality corporate bonds with maturities matching the projected benefit cash flows. The Company used discount rates of 3.0% for the Kirby pension plan and 3.1% for the Higman pension plan in 2021 and 2.8% for the Kirby pension plan and 2.9% for the Higman pension plan in 2020. The Company estimates that every 0.1% decrease in the discount rate results in an increase in the accumulated benefit obligation ("ABO") of approximately $8,100,000. The Company assumed that plan assets would generate a long-term rate of return of 6.75% in both 2021 and 2020. The Company developed its expected long-term rate of return assumption by evaluating input from investment consultants and comparing historical returns for various asset classes with its actual and targeted plan investments. The Company believes that long-term asset allocation, on average, will approximate the targeted allocation.

Long-Term Financing

The following table summarizes the Company’s outstanding debt (in thousands):

	December 31, 2021	December 31, 2020
Long-term debt, including current portion:		
Revolving Credit Facility due March 27, 2024 (a)	$ —	$ 250,000
Term Loan due March 27, 2024 (a)	315,000	375,000
3.29% senior notes due February 27, 2023	350,000	350,000
4.2% senior notes due March 1, 2028	500,000	500,000
Credit line due June 30, 2022	—	—
Bank notes payable	1,934	40
	1,166,934	1,475,040
Unamortized debt discount and issuance costs (b)	(3,567)	(6,454)
	$ 1,163,367	$ 1,468,586

(a) Variable interest rate of 1.5% at both December 31, 2021 and 2020.
(b) Excludes $1,403,000 attributable to the Revolving Credit Facility included in other assets at December 31, 2021.

The Company has an amended and restated credit agreement (“Credit Agreement”) with a group of commercial banks, with JPMorgan Chase Bank, N.A. as the administrative agent bank, allowing for an $850,000,000 revolving credit facility (“Revolving Credit Facility”) and an unsecured term loan (“Term Loan”) with a maturity date of March 27, 2024. The Term Loan is due on March 27, 2024 and is prepayable, in whole or in part, without penalty. During 2021 and 2019, the Company repaid $60,000,000 and $125,000,000, respectively, under the Term Loan prior to the originally scheduled installments. No prepayments were made in 2020. The Revolving Credit Facility includes a $25,000,000 commitment which may be used for standby letters of credit. Outstanding letters of credit under the Revolving Credit Facility were $5,063,000 and available borrowing capacity was $844,937,000 as of December 31, 2021.

On February 3, 2022, the Company entered into a note purchase agreement for the issuance of $300,000,000 of unsecured senior notes with a group of institutional investors, consisting of $60,000,000 of 3.46% series A notes ("Series A Notes") and $240,000,000 of 3.51% series B notes ("Series B Notes"), each due January 19, 2033 (collectively, the "2033 Notes"). The Series A Notes are scheduled to be issued on October 20, 2022, and the Series B Notes are scheduled to be issued on January 19, 2023. No principal payments will be required until maturity. Beginning in 2023, interest payments of $5,250,000 will be due semi-annually on January 19 and July 19 of each year, with the exception of the first payment on January 19, 2023, which will be $525,000. The 2033 Notes will be unsecured and rank equally in right of payment with the Company's other unsecured senior indebtedness. The 2033 Notes contain certain covenants on the part of the Company, including an interest coverage covenant, a debt-to-capitalization covenant, and covenants relating to liens, asset sales and mergers, among others. The 2033 Notes also specify certain events of default, upon the occurrence of which the maturity of the notes may be accelerated, including failure to pay principal and interest, violation of covenants or default on other indebtedness, among others. The Company intends to use the proceeds from the issuance of the 2033 Notes and cash provided by operations to repay the 3.29% senior unsecured notes due February 27, 2023.

On February 27, 2020, upon maturity, the Company repaid in full $150,000,000 of 2.72% unsecured senior notes.

Outstanding letters of credit under the $10,000,000 credit line were $1,299,000 and available borrowing capacity was $8,701,000 as of December 31, 2021.

As of December 31, 2021, the Company was in compliance with all covenants under its debt instruments. For additional information about the Company’s debt instruments, see Note 5, Long-Term Debt.

Cash Flow and Capital Expenditures

The Company generated net cash provided by operating activities of $321,576,000, $444,940,000, and $511,813,000 for the years ended December 31, 2021, 2020, and 2019, respectively. During 2021, the 28% decrease was primarily due to lower revenues and operating income in the marine transportation segment, partially offset by a tax refund of $119,493,000, including accrued interest, for the Company’s 2019 federal tax return, increased revenues and operating income in the distribution and services segment, reduced incentive compensation payouts, and the full year impact of revenues from the Savage fleet which was acquired in April 2020. Decreases in marine transportation revenues and operating income were driven by decreased term and spot contract pricing in the inland market, each as a result of a reduction in demand due to the COVID-19 pandemic. Marine transportation results in 2021 were also negatively impacted by Winter Storm Uri and Hurricane Ida. The decrease in cash flows was also partially due to an increase in inventories in 2021 compared to a decrease in 2020.

During 2021, 2020, and 2019, the Company generated cash of $51,342,000, $17,310,000, and $57,657,000, respectively, from proceeds from the disposition of assets, and $629,000, $353,000, and $5,743,000, respectively, from proceeds from the exercise of stock options.

For 2021, cash generated was used for capital expenditures of $98,015,000 (net of an increase in accrued capital expenditures of $18,633,000), including $6,202,000 for inland towboat construction and $91,813,000 primarily for upgrading existing marine equipment and marine transportation and distribution and services facilities. The Company also used $9,115,000 for acquisitions of businesses and marine equipment, more fully described under Acquisitions above.

For 2020, cash generated and borrowings under the Company's Revolving Credit Facility were used for capital expenditures of $148,185,000, (including a decrease in accrued capital expenditures of $13,280,000) including $7,506,000 for inland towboat construction and $140,679,000 primarily for upgrading existing marine equipment and marine transportation and distribution and services facilities. The Company also used $354,972,000 for acquisitions of businesses and marine equipment, more fully described under Acquisitions above.

Treasury Stock Purchases

The Company did not purchase any treasury stock during 2021, 2020, or 2019. As of February 17, 2022, the Company had approximately 1,400,000 shares available under its existing repurchase authorizations. Historically, treasury stock purchases have been financed through operating cash flows and borrowings under the Company's Revolving Credit Facility. The Company is authorized to purchase its common stock on the New York Stock Exchange and in privately negotiated transactions. When purchasing its common stock, the Company is subject to price, trading volume and other market considerations. Shares purchased may be used for reissuance upon the exercise of stock options or the granting of other forms of incentive compensation, in future acquisitions for stock or for other appropriate corporate purposes.

Liquidity and Capital Resources

Funds generated from operations are available for acquisitions, capital expenditure projects, common stock repurchases, repayments of borrowings and for other corporate and operating requirements. In addition to net cash flow provided by operating activities, as of February 17, 2022, the Company had cash equivalents of $22,333,000, availability of $844,937,000 under its Revolving Credit Facility and $8,701,000 available under its Credit Line.

Neither the Company, nor any of its subsidiaries, is obligated on any debt instrument, swap agreement, or any other financial instrument or commercial contract which has a rating trigger, except for pricing grids on its Credit Agreement.

The Company expects to continue to be able to fund expenditures for acquisitions, capital construction projects, common stock repurchases, repayment of borrowings, and for other operating requirements both in the short term and in the long term from a combination of available cash and cash equivalents, funds generated from operating activities, and available financing arrangements.

The Revolving Credit Facility's commitment is in the amount of $850,000,000 and expires March 27, 2024. As of December 31, 2021, the Company had $844,937,000 available under the Revolving Credit Facility. The 3.29% senior unsecured notes do not mature until February 27, 2023, and require no prepayments. The Company intends to use the proceeds from the issuance of the 2033 Notes in October 2022 and January 2023 and cash provided by operations to repay the 3.29% senior unsecured notes upon maturity. The 4.2% senior unsecured notes do not mature until March 1, 2028 and require no prepayments. The Term Loan is due March 27, 2024 and is prepayable, in whole or in part, without penalty.

There are numerous factors that may negatively impact the Company's cash flow in 2022. For a list of significant risks and uncertainties that could impact cash flows, see Note 14, Contingencies and Commitments in the financial statements, and Item 1A — Risk Factors. Amounts available under the Company's existing financing arrangements are subject to the Company continuing to meet the covenants of the credit facilities as described in Note 5, Long-Term Debt in the financial statements.

The Company has issued guaranties or obtained standby letters of credit and performance bonds supporting performance by the Company and its subsidiaries of contractual or contingent legal obligations of the Company and its subsidiaries incurred in the ordinary course of business. The aggregate notional value of these instruments is $19,357,000 at December 31, 2021, including $12,055,000 in letters of credit and $7,302,000 in performance bonds. All of these instruments have an expiration date within two years. The Company does not believe demand for payment under these instruments is likely and expects no material cash outlays to occur in connection with these instruments.

The Company's marine transportation term contracts typically contain fuel escalation clauses, or the customer pays for the fuel. However, there is generally a 30 to 90 day delay before contracts are adjusted depending on the specific contract. In general, the fuel escalation clauses are effective over the long-term in allowing the Company to recover changes in fuel costs due to fuel price changes. However, the short-term effectiveness of the fuel escalation clauses can be affected by a number of factors including, but not limited to, specific terms of the fuel escalation formulas, fuel price volatility, navigating conditions, tow sizes, trip routing, and the location of loading and discharge ports that may result in the Company over or under recovering its fuel costs. The Company's spot contract rates generally reflect current fuel prices at the time the contract is signed but do not have escalators for fuel.

The Company currently leases various facilities and equipment under cancelable and noncancelable operating leases. Future minimum lease payments under operating leases that have initial noncancelable lease terms in excess of one year are detailed in Note 6, Leases. Lease payments for towing vessels exclude non-lease components. The Company estimates that non-lease components comprise approximately 70% of charter rental costs, related to towboat crew costs, maintenance and insurance.

The Company's pension plan funding strategy is to make annual contributions in amounts equal to or greater than amounts necessary to meet minimum government funding requirements. The ABO is based on a variety of demographic and economic assumptions, and the pension plan assets' returns are subject to various risks, including market and interest rate risk, making an accurate prediction of the pension plan contribution difficult resulting in the Company electing to only make an expected pension contribution forecast of one year. As of December 31, 2021, the Company's pension plan funding was 92% of the pension plans' ABO, including the Higman pension plan. The Company expects to make additional pension contributions of $145,000 in 2022.

While inflationary pressures have increased in 2021, during the last three years, inflation has had a relatively minor effect on the financial results of the Company. The marine transportation segment has long-term contracts which generally contain cost escalation clauses whereby certain costs, including fuel as noted above, can be passed through to its customers. Spot contract rates include the cost of fuel and are subject to market volatility. In the distribution and services segment, the cost of major components for large manufacturing orders is secured with suppliers at the time a customer order is finalized, which limits exposure to inflation. The repair portion of the distribution and services segment is based on prevailing current market rates.

Accounting Standards

For a discussion of recently issued accounting standards, see Note 1, Summary of Significant Accounting Policies.

Item 7A. ***Quantitative and Qualitative Disclosures about Market Risk***

The Company is exposed to risk from changes in interest rates on certain of its outstanding debt. The outstanding loan balances under the Company's bank credit facilities bear interest at variable rates based on prevailing short-term interest rates in the United States and Europe. A 1% increase in variable interest rates would impact the 2021 interest expense by $3,150,000 based on balances outstanding at December 31, 2021, and would change the fair value of the Company's debt by approximately 3%.

Item 8. ***Financial Statements and Supplementary Data***

The response to this item is submitted as a separate section of this report (see Item 15, page 80 and pages 47 to 79 of this report).

Item 9. ***Changes in and Disagreements with Accountants on Accounting and Financial Disclosure***

Not applicable.

Item 9A. ***Controls and Procedures***

Disclosure Controls and Procedures. The Company's management, with the participation of the Chief Executive Officer and the Chief Financial Officer, has evaluated the Company's disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934 ("Exchange Act")), as of December 31, 2021, as required by Rule 13a-15(b) under the Exchange Act. Based on that evaluation, the Chief Executive Officer and the Chief Financial Officer concluded that, as of December 31, 2021, the disclosure controls and procedures were effective to ensure that information required to be disclosed by the Company in the reports that it files or submits under the Exchange Act (i) is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms and (ii) is accumulated and communicated to the Company's management, including the Chief Executive Officer and the Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Management's Annual Report on Internal Control Over Financial Reporting. Management of the Company is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act). The Company's management, with the participation of the Chief Executive Officer and the Chief Financial Officer, evaluated the effectiveness of the Company's internal control over financial reporting as of December 31, 2021 using the framework in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on that evaluation, management concluded that the Company's internal control over financial reporting was effective as of December 31, 2021. KPMG LLP, the Company's independent registered public accounting firm, has audited the Company's internal control over financial reporting, as stated in their report which is included herein.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Changes in Internal Control Over Financial Reporting. There were no changes in the Company's internal control over financial reporting during the quarter ended December 31, 2021 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Item 9B. ***Other Information***

Not applicable

Item 9C. ***Disclosure Regarding Foreign Jurisdictions that Prevent Inspections***

Not applicable

PART III

Items 10 Through 14.

The information for these items is incorporated by reference to the definitive proxy statement to be filed by the Company with the Commission pursuant to Regulation 14A within 120 days of the close of the fiscal year ended December 31, 2021, except for the information regarding executive officers which is provided under Item 1.

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Kirby Corporation:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Kirby Corporation and subsidiaries (the Company) as of December 31, 2021 and 2020, the related consolidated statements of earnings, comprehensive income, stockholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2021, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2021, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 18, 2022 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Change in Accounting Principle

As discussed in Note 1 to the consolidated financial statements, the Company has changed its method of accounting for impairment of goodwill as of January 1, 2020 due to the adoption of Accounting Standards Update 2017-04, *Intangibles-Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment*.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of a critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing separate opinions on the critical audit matter or on the accounts or disclosures to which it relates.

Evaluation of potential impairment indicators for offshore vessel classes

As discussed in Note 1 to the consolidated financial statements, the Company performs an impairment assessment when circumstances indicate that the carrying amount of its long-lived assets may not be recoverable. If a triggering event is identified, the Company compares the carrying amount of the asset group to the estimated undiscounted future cash flows expected to result from the use of the asset group. If the carrying amount of the asset group exceeds the estimated undiscounted future cash flows, the Company measures the amount of the impairment by comparing the carrying amount of the asset group to its estimated fair value. Recoverability of marine transportation assets is assessed based on vessel classes.

We identified the evaluation of potential impairment indicators for offshore vessel classes as a critical audit matter. Evaluating the Company's judgments in determining whether there was a triggering event required a high degree of subjective auditor judgment.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls related to the Company's process to identify and assess triggering events that indicate that the carrying amount of an offshore vessel class may not be recoverable. This included controls related to the consideration of forecasted to actual operating results and market conditions in the determination of a triggering event. We assessed the Company's identification of triggering events by evaluating future expected revenues from executed contracts with customers. We compared data used by the Company in forecasting future revenues, noting that such data included both internal and external elements, to analyst and industry reports. We evaluated the Company's responses related to the elements considered and whether the Company omitted any significant internal or external elements in its evaluation.

/s/ KPMG LLP

We have served as the Company's auditor since 1992.

Houston, Texas
February 18, 2022

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Kirby Corporation:

Opinion on Internal Control Over Financial Reporting

We have audited Kirby Corporation and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2021 and 2020, the related consolidated statements of earnings, comprehensive income, stockholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2021, and the related notes (collectively, the consolidated financial statements), and our report dated February 18, 2022 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ KPMG LLP

Houston, Texas
February 18, 2022

KIRBY CORPORATION AND CONSOLIDATED SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

	December 31, 2021	December 31, 2020
	($ in thousands)	
ASSETS		
Current assets:		
Cash and cash equivalents	$ 34,813	$ 80,338
Accounts receivable:		
Trade — less allowance for doubtful accounts of $8,177 ($8,807 in 2020)	417,958	315,283
Other	149,964	284,899
Inventories — at lower of average cost or net realizable value	331,350	309,675
Prepaid expenses and other current assets	69,780	57,776
Total current assets	1,003,865	1,047,971
Property and equipment:		
Marine transportation equipment	4,789,994	4,999,777
Land, buildings and equipment	602,857	615,623
	5,392,851	5,615,400
Accumulated depreciation	(1,714,336)	(1,698,330)
Property and equipment — net	3,678,515	3,917,070
Operating lease right-of-use assets	167,730	174,317
Investment in affiliates	2,134	2,689
Goodwill	438,748	657,800
Other intangibles, net	60,070	68,979
Other assets	48,001	55,348
Total assets	$ 5,399,063	$ 5,924,174
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Bank notes payable	$ 1,934	$ 40
Income taxes payable	—	474
Accounts payable	199,088	162,507
Accrued liabilities:		
Interest	11,379	11,272
Insurance premiums and claims	111,117	111,359
Employee compensation	39,331	32,918
Taxes — other than on income	44,740	44,366
Other	29,511	24,940
Current portion of operating lease liabilities	33,902	32,750
Deferred revenues	72,770	45,406
Total current liabilities	543,772	466,032
Long-term debt, net — less current portion	1,161,433	1,468,546
Deferred income taxes	574,152	606,844
Operating lease liabilities — less current portion	159,672	163,496
Other long-term liabilities	71,252	131,703
Total long-term liabilities	1,966,509	2,370,589
Contingencies and commitments	—	—
Equity:		
Kirby stockholders' equity:		
Common stock, $0.10 par value per share. Authorized 120,000,000 shares, issued 65,472,000	6,547	6,547
Additional paid-in capital	854,512	844,979
Accumulated other comprehensive income — net	(25,966)	(61,452)
Retained earnings	2,346,439	2,593,393
Treasury stock — at cost, 5,361,000 shares in 2021 and 5,434,000 shares in 2020	(295,208)	(299,161)
Total Kirby stockholders' equity	2,886,324	3,084,306
Noncontrolling interests	2,458	3,247
Total equity	2,888,782	3,087,553
Total liabilities and equity	$ 5,399,063	$ 5,924,174

See accompanying notes to consolidated financial statements.

KIRBY CORPORATION AND CONSOLIDATED SUBSIDIARIES
CONSOLIDATED STATEMENTS OF EARNINGS

	Year Ended December 31,		
	2021	2020	2019
	($ in thousands, except per share amounts)		
Revenues:			
Marine transportation	$ 1,322,918	$ 1,404,265	$ 1,587,082
Distribution and services	923,742	767,143	1,251,317
Total revenues	2,246,660	2,171,408	2,838,399
Costs and expenses:			
Costs of sales and operating expenses	1,652,961	1,510,818	2,030,046
Selling, general and administrative	266,911	258,272	277,388
Taxes, other than on income	36,251	42,000	41,933
Depreciation and amortization	213,718	219,921	219,632
Impairments and other charges	340,713	561,274	35,525
Gain on disposition of assets	(5,761)	(118)	(8,152)
Total costs and expenses	2,504,793	2,592,167	2,596,372
Operating income (loss)	(258,133)	(420,759)	242,027
Other income	10,001	8,147	3,787
Interest expense	(42,469)	(48,739)	(55,994)
Earnings (loss) before taxes on income	(290,601)	(461,351)	189,820
(Provision) benefit for taxes on income	43,830	189,759	(46,801)
Net earnings (loss)	(246,771)	(271,592)	143,019
Less: Net earnings attributable to noncontrolling interests	(183)	(954)	(672)
Net earnings (loss) attributable to Kirby	$ (246,954)	$ (272,546)	$ 142,347
Net earnings (loss) per share attributable to Kirby common stockholders:			
Basic	$ (4.11)	$ (4.55)	$ 2.38
Diluted	$ (4.11)	$ (4.55)	$ 2.37

See accompanying notes to consolidated financial statements.

KIRBY CORPORATION AND CONSOLIDATED SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	Year Ended December 31,		
	2021	2020	2019
		($ in thousands)	
Net earnings (loss)	$ (246,771)	$ (271,592)	$ 143,019
Other comprehensive income (loss), net of taxes:			
Pension and postretirement benefits	36,547	(23,320)	(4,203)
Foreign currency translation adjustments	(1,061)	(333)	(85)
Total other comprehensive income (loss), net of taxes	35,486	(23,653)	(4,288)
Total comprehensive income (loss), net of taxes	(211,285)	(295,245)	138,731
Net earnings attributable to noncontrolling interests	(183)	(954)	(672)
Comprehensive income (loss) attributable to Kirby	$ (211,468)	$ (296,199)	$ 138,059

See accompanying notes to consolidated financial statements.

KIRBY CORPORATION AND CONSOLIDATED SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended December 31,		
	2021	2020	2019
	($ in thousands)		
Cash flows from operating activities:			
Net earnings (loss)	$ (246,771)	$ (271,592)	$ 143,019
Adjustments to reconcile net earnings (loss) to net cash provided by operations:			
Depreciation and amortization	213,718	219,921	219,632
Provision (credit) for doubtful accounts	(138)	3,716	(873)
Provision (benefit) for deferred income taxes	(44,419)	25,163	46,839
Gain on disposition of assets	(5,761)	(118)	(8,152)
Impairments and other charges	340,713	561,274	35,525
Amortization of unearned share-based compensation	15,713	14,722	13,612
Amortization of major maintenance costs	33,213	30,214	23,962
Other	(640)	(90)	1,683
Increase (decrease) in cash flows resulting from changes in:			
Accounts receivable	29,126	(124,941)	43,078
Inventory	(19,248)	47,076	122,773
Other assets	(38,335)	(29,994)	(25,470)
Income taxes payable	480	8,826	(2,503)
Accounts payable	15,951	(39,795)	(57,405)
Accrued and other liabilities	27,974	558	(43,907)
Net cash provided by operating activities	321,576	444,940	511,813
Cash flows from investing activities:			
Capital expenditures	(98,015)	(148,185)	(248,164)
Acquisitions of businesses and marine equipment, net of cash acquired	(9,115)	(354,972)	(262,491)
Proceeds from disposition of assets and other	51,342	17,310	57,657
Net cash used in investing activities	(55,788)	(485,847)	(452,998)
Cash flows from financing activities:			
Borrowings (payments) on bank credit facilities, net	(248,105)	250,024	(417,376)
Borrowings on long-term debt	—	—	500,000
Payments on long-term debt	(60,000)	(150,000)	(125,000)
Payment of debt issue costs	—	—	(2,397)
Return of investment to noncontrolling interests and other	(981)	(676)	(817)
Proceeds from exercise of stock options	629	353	5,743
Payments related to tax withholding for share-based compensation	(2,856)	(3,193)	(2,031)
Net cash provided by (used in) financing activities	(311,313)	96,508	(41,878)
Increase (decrease) in cash and cash equivalents	(45,525)	55,601	16,937
Cash and cash equivalents, beginning of year	80,338	24,737	7,800
Cash and cash equivalents, end of year	$ 34,813	$ 80,338	$ 24,737
Supplemental disclosures of cash flow information:			
Cash paid (received) during the period:			
Interest paid	$ 40,878	$ 48,721	$ 55,766
Income taxes paid (refunded), net	$ (116,648)	$ (35,571)	$ 2,926
Operating cash outflow from operating leases	$ 44,089	$ 43,639	$ 39,376
Non-cash investing activity:			
Capital expenditures included in accounts payable	$ 18,633	$ (13,280)	$ 13,875
Right-of-use assets obtained in exchange for lease obligations	$ 33,842	$ 46,511	$ 21,195

See accompanying notes to consolidated financial statements.

KIRBY CORPORATION AND CONSOLIDATED SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

	Common Stock		Additional Paid-in-Capital	Accumulated Other Comprehensive Income	Retained Earnings	Treasury Stock		Noncontrolling Interests	Total
	Shares	Amount				Shares	Amount		
					(in thousands)				
Balance at December 31, 2018	65,472	$ 6,547	$ 823,347	$ (33,511)	$ 2,723,592	(5,608)	$ (306,788)	$ 3,114	$ 3,216,301
Stock option exercises	—	—	675	—	—	93	5,121	—	5,796
Issuance of stock for equity awards, net of forfeitures	—	—	(1,735)	—	—	32	1,735	—	—
Tax withholdings on equity award vesting	—	—	—	—	—	(30)	(2,031)	—	(2,031)
Amortization of unearned share-based compensation	—	—	13,612	—	—	—	—	—	13,612
Total comprehensive income, net of taxes	—	—	—	(4,288)	142,347	—	—	672	138,731
Return of investment to noncontrolling interests	—	—	—	—	—	—	—	(817)	(817)
Balance at December 31, 2019	65,472	$ 6,547	$ 835,899	$ (37,799)	$ 2,865,939	(5,513)	$ (301,963)	$ 2,969	$ 3,371,592
Stock option exercises	—	—	26	—	—	15	327	—	353
Issuance of stock for equity awards, net of forfeitures	—	—	(5,668)	—	—	103	5,668	—	—
Tax withholdings on equity award vesting	—	—	—	—	—	(39)	(3,193)	—	(3,193)
Amortization of unearned share-based compensation	—	—	14,722	—	—	—	—	—	14,722
Total comprehensive loss, net of taxes	—	—	—	(23,653)	(272,546)	—	—	954	(295,245)
Return of investment to noncontrolling interests	—	—	—	—	—	—	—	(676)	(676)
Balance at December 31, 2020	65,472	$ 6,547	$ 844,979	$ (61,452)	$ 2,593,393	(5,434)	$ (299,161)	$ 3,247	$ 3,087,553
Stock option exercises	—	—	21	—	—	12	608	—	629
Issuance of stock for equity awards, net of forfeitures	—	—	(6,201)	—	—	113	6,201	—	—
Tax withholdings on equity award vesting	—	—	—	—	—	(52)	(2,856)	—	(2,856)
Amortization of unearned share-based compensation	—	—	15,713	—	—	—	—	—	15,713
Total comprehensive loss, net of taxes	—	—	—	35,486	(246,954)	—	—	183	(211,285)
Return of investment to noncontrolling interests	—	—	—	—	—	—	—	(972)	(972)
Balance at December 31, 2021	65,472	$ 6,547	$ 854,512	$ (25,966)	$ 2,346,439	(5,361)	$ (295,208)	$ 2,458	$ 2,888,782

See accompanying notes to consolidated financial statements.

(1) Summary of Significant Accounting Policies

Principles of Consolidation. The consolidated financial statements include the accounts of Kirby Corporation and all majority-owned subsidiaries (the "Company"). All investments in which the Company owns 20% to 50% and exercises significant influence over operating and financial policies are accounted for using the equity method. All material intercompany accounts and transactions have been eliminated in consolidation. Certain reclassifications have been made to reflect the current presentation of financial information. Such reclassifications have no impact on previously reported net earnings (loss), stockholders' equity, or cash flows.

Accounting Policies

Cash Equivalents. Cash equivalents consist of all short-term, highly liquid investments with maturities of three months or less at date of purchase.

Accounts Receivable. In the normal course of business, the Company extends credit to its customers. The Company regularly reviews the accounts and makes adequate provisions for probable uncollectible balances. It is the Company's opinion that the accounts have no impairment, other than that for which provisions have been made. Included in accounts receivable-trade as of December 31, 2021 and 2020 were $92,749,000 and $91,850,000, respectively, of accruals for revenues earned which have not been invoiced as of the end of each year.

The Company's marine transportation and distribution and services operations are subject to hazards associated with such businesses. The Company maintains insurance coverage against these hazards with insurance companies. Included in accounts receivable-other as of December 31, 2021 and 2020 were $69,558,000 and $83,145,000, respectively, of receivables from insurance companies to cover claims in excess of the Company's deductible.

Concentrations of Credit Risk. Financial instruments which potentially subject the Company to concentrations of credit risk are primarily trade accounts receivables. The Company's marine transportation customers include the major oil refining and petrochemical companies. The distribution and services customers are oilfield service companies, oil and gas operators and producers, on-highway transportation companies, marine transportation companies, commercial fishing companies, construction companies, power generation companies, and the United States government. The Company regularly reviews its accounts and estimates the amount of uncollectible receivables each period and establishes an allowance for uncollectible amounts. The amount of the allowance is based on the age of unpaid amounts, information about the current financial strength of customers, and other relevant information. Estimates of uncollectible amounts are revised each period, and changes are recorded in the period they become known.

Property, Maintenance and Repairs. Property is recorded at cost or acquisition date fair value; improvements and betterments are capitalized as incurred. Depreciation is recorded using the straight-line method over the estimated useful lives of the individual assets as follows: marine transportation equipment, 5-40 years; buildings, 10-40 years; other equipment, 2-10 years; and leasehold improvements, term of lease. When property items are retired, sold, or otherwise disposed of, the related cost and accumulated depreciation are removed from the accounts with any gain or loss on the disposition included in the statement of earnings. Maintenance and repairs on vessels built for use on the inland waterways are charged to operating expense as incurred and includes the costs incurred in United States Coast Guard ("USCG") inspections unless the shipyard extends the life or improves the operating capacity of the vessel which results in the costs being capitalized.

Drydocking on Ocean-Going Vessels. The Company's ocean-going vessels are subject to regulatory drydocking requirements after certain periods of time to be inspected, have planned major maintenance performed and be recertified by the American Bureau of Shipping ("ABS"). These recertifications generally occur twice in a five-year period. The Company defers the drydocking expenditures incurred on its ocean-going vessels due to regulatory marine inspections by the ABS and amortizes the costs of the shipyard over the period between drydockings, generally 30 or 60 months, depending on the type of major maintenance performed. Drydocking expenditures that extend the life or improve the operating capability of the vessel result in the costs being capitalized. The Company recognized amortization of major maintenance costs of $33,213,000, $30,214,000, and $23,962,000 for the years ended December 31, 2021, 2020, and 2019, respectively, in costs of sales and operating expenses. Routine repairs and maintenance on ocean-going vessels are expensed as incurred. Interest is capitalized on the construction of new ocean-going vessels. Interest expense excludes capitalized interest of $1,003,000 for the year ending December 31, 2019. For the years ended December 31, 2021 and 2020, no interest was capitalized.

Environmental Liabilities. The Company expenses costs related to environmental events as they are incurred or when a loss is considered probable and reasonably estimable.

Goodwill. The excess of the purchase price over the fair value of identifiable net assets acquired in transactions accounted for as a purchase is included in goodwill. The Company conducted its annual goodwill impairment tests at November 30, 2021, 2020, and 2019. The Company also conducted interim goodwill impairment tests at September 30, 2021 and March 31, 2020. Refer to Note 7, Impairments and other charges for more information. The Company will continue to conduct goodwill impairment tests as of November 30 of subsequent years, or whenever events or circumstances indicate that interim impairment testing is necessary. The amount of goodwill impairment, if any, is typically measured based on a combination of projected discounted future operating cash flows using an appropriate discount rate and a market approach for comparable companies. The following table summarizes the changes in goodwill (in thousands):

	Marine Transportation	Distribution and Services	Total
Balance at December 31, 2019 (gross)	$ 424,149	$ 549,846	$ 973,995
Accumulated impairment and amortization	(18,574)	(1,595)	(20,169)
Balance at December 31, 2019	405,575	548,251	953,826
Impairment	—	(387,970)	(387,970)
Savage acquisition	81,635	—	81,635
Convoy acquisition	—	10,309	10,309
Balance at December 31, 2020 (gross)	505,784	560,155	1,065,939
Accumulated impairment and amortization	(18,574)	(389,565)	(408,139)
Balance at December 31, 2020	$ 487,210	$ 170,590	$ 657,800
Impairment	(219,052)	—	(219,052)
Balance at December 31, 2021 (gross)	505,784	560,155	1,065,939
Accumulated impairment and amortization	(237,626)	(389,565)	(627,191)
Balance at December 31, 2021	$ 268,158	$ 170,590	$ 438,748

Other Intangibles. Other intangibles include assets for favorable contracts and customer relationships, distributorship and dealership agreements, trade names and non-compete agreements and liabilities for unfavorable leases and contracts. The following table summarizes the balances of other intangible assets and other intangible liabilities (in thousands):

	December 31, 2021	December 31, 2020
Other intangible assets – gross	$ 203,217	$ 203,217
Accumulated amortization	(143,147)	(134,238)
Other intangible assets – net	$ 60,070	$ 68,979
Other intangible liabilities – gross	$ 13,860	$ 13,860
Accumulated amortization	(12,120)	(10,960)
Other intangible liabilities – net	$ 1,740	$ 2,900

The costs of intangible assets and liabilities are amortized to expense in a systematic and rational manner over their estimated useful lives. For the years ended December 31, 2021, 2020, and 2019, the amortization expense for intangibles was $7,758,000, $9,235,000, and $15,040,000, respectively. Estimated net amortization expense for amortizable intangible assets and liabilities for the next five years (2022 – 2026) is approximately $7,466,000, $7,947,000, $8,513,000, $8,513,000, and $6,257,000, respectively. As of December 31, 2021, the weighted average amortization period for intangible assets and liabilities was approximately 8 years.

Revenue Recognition. The majority of marine transportation revenue is derived from term contracts, ranging from one to three years, some of which have renewal options, and the remainder is from spot contracts. The majority of the term contracts are for terms of one year. The Company provides marine transportation services for its customers and, in almost all cases, does not assume ownership of the products it transports. A term contract is an agreement with a specific customer to transport cargo from a designated origin to a designated destination at a set rate or at a daily rate. The rate may or may not escalate during the term of the contract, however, the base rate generally remains constant and contracts often include escalation provisions to recover changes in specific costs such as fuel. A spot contract is an agreement with a customer to move cargo from a specific origin to a designated destination for a rate negotiated at the time the cargo movement takes place. Spot contract rates are at the current "market" rate, including fuel, and are subject to market volatility. The Company uses a voyage accounting method of revenue recognition for its marine transportation revenues which allocates voyage revenue based on the percent of the voyage completed during the period. The performance of the service is invoiced as the transaction occurs and payment is required depending on each specific customer's credit.

Distribution products and services are generally sold based upon purchase orders or preferential service agreements with the customer that include fixed or determinable prices. Parts sales are recognized when control transfers to the customer, generally when title passes upon shipment to customers. Service revenue is recognized over time as the service is provided using measures of progress utilizing hours worked or costs incurred as a percentage of estimated hours or expected costs. Revenue from rental agreements is recognized on a straight-line basis over the rental period. The Company recognizes the revenues on manufacturing activities upon shipment and transfer of control to the customer. The transactions in the distribution and services segment are typically invoiced as parts are shipped or upon the completion of the service job. Contract manufacturing activities are generally invoiced upon shipment and the Company will often get deposits from its customers prior to starting work, or progress payments during the project depending on the credit worthiness of the customer and the size of the project.

Stock-Based Compensation. The Company has share-based compensation plans covering selected officers and other key employees as well as the Company's Board of Directors. Stock-based grants made under the Company's stock plans are recorded at fair value on the date of the grant and the cost for all grants made under the director plan and for grants made under the employee plan is generally recognized ratably over the vesting period of the restricted stock unit ("RSU"), stock option, or restricted stock, however, the employee plan includes a provision for the continued vesting of unvested stock options and RSUs for employees who meet certain years of service and age requirements at the time of their retirement. The provision results in shorter expense accrual periods on stock options and RSUs granted to employees who are nearing retirement and meet the service and age requirements. Stock option grants are valued at the date of grant as calculated under the Black-Scholes option pricing model. The Company accounts for forfeitures as they occur. The Company's stock-based compensation plans are more fully described in Note 8, Stock Award Plans.

Taxes on Income. The Company follows the asset and liability method of accounting for income taxes. Under the asset and liability method, deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax basis and operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date.

Accrued Insurance. Accrued insurance liabilities include estimates based on individual incurred claims outstanding and an estimated amount for losses incurred but not reported ("IBNR") or fully developed based on past experience. Insurance premiums, IBNR losses and incurred claim losses, in excess of the Company's deductible for the years ended December 31, 2021, 2020, and 2019, were $37,836,000, $30,564,000, and $32,372,000, respectively.

Treasury Stock. The Company follows the average cost method of accounting for treasury stock transactions.

Impairment of Long-lived Assets and for Long-lived Assets to Be Disposed Of. The Company performs an impairment assessment whenever events or changes in circumstances indicate that the carrying amount of long-lived assets may not be recoverable.

Recoverability on marine transportation assets is assessed based on vessel classes, not on individual assets, because identifiable cash flows for individual marine transportation assets are not available. Projecting customer contract volumes allows estimation of future cash flows by projecting pricing and utilization by vessel class but it is not practical to project which individual marine transportation asset will be utilized for any given contract. Because customers do not specify which particular vessel is used, prices are quoted based on vessel classes not individual assets. Nominations of vessels for specific jobs are determined on a day by day basis and are a function of the equipment class required and the geographic position of vessels within that class at that particular time as vessels within a class are interchangeable and provide the same service. The Company's vessels are mobile assets and equipped to operate in geographic regions throughout the United States and the Company has in the past and expects to continue to move vessels from one region to another when it is necessary due to changing markets and it is economical to do so. Barge vessel classes are based on similar capacities, hull type, and type of product and towing vessels are based on similar hull type and horsepower.

If a triggering event is identified, the Company compares the carrying amount of the asset group to the estimated undiscounted future cash flows expected to result from the use of the asset group. If the carrying amount of the asset group exceeds the estimated undiscounted future cash flows, the Company measures the amount of the impairment by comparing the carrying amount of the asset group to its estimated fair value. Assets to be disposed of are reported at the lower of the carrying amount or fair value less costs to sell.

Fair Value Measurements. The accounting guidance for using fair value to measure certain assets and liabilities establishes a three tier value hierarchy, which prioritizes the inputs to valuation techniques used in measuring fair value. These tiers include: Level 1, defined as observable inputs such as quoted prices in active markets for identical assets or liabilities; Level 2, defined as inputs other than quoted prices in active markets that are either directly or indirectly observable; and Level 3, defined as unobservable inputs in which little, if any, market data exists, therefore requiring an entity to develop its own assumptions about the assumptions that market participants would use in pricing the asset or liability. The fair value of the Company's debt instruments is described in Note 5, Long-Term Debt.

Accounting Standards

In December 2019, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2019-12, "Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes" ("ASU 2019-12") which simplifies the accounting for income taxes by removing certain exceptions to the general principles in Topic 740, Income Taxes. The Company adopted ASU 2019-12 on January 1, 2021. There was no material impact on the Company's financial statements or disclosures upon adoption of ASU 2019-12.

In January 2017, the FASB issued ASU 2017-04, "Intangibles – Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment" ("ASU 2017-04") which simplifies the subsequent measurement of goodwill by eliminating Step 2 in the goodwill impairment test that required an entity to perform procedures to determine the fair value of its assets and liabilities at the testing date. An entity instead shall perform its annual, or interim, goodwill impairment test by comparing the fair value of a reporting unit with its carrying value and record an impairment charge based on the excess of a reporting unit's carrying amount over its fair value, incorporating all tax impacts caused by the recognition of the impairment loss. An entity still has the option to perform the qualitative assessment for a reporting unit to determine if the quantitative impairment test is necessary. The Company adopted ASU 2017-04 on January 1, 2020 on a prospective basis. See Note 7, Impairments and Other Charges for further details.

(2) Acquisitions

During 2021, the Company purchased four inland tank barges from a leasing company for $7,470,000 in cash. The Company had been leasing the barges prior to the purchase.

On October 4, 2021, the Company paid $1,645,000 in cash to purchase assets of an energy storage systems manufacturer based in Texas which have been key to the development of new power generation solutions for electric fracturing equipment. Assets acquired and liabilities assumed consisted primarily of a right of use lease asset and lease liability for an operating lease assumed as part of the acquisition.

Pro forma results of the acquisitions made in 2021 have not been presented as the pro forma revenues and net earnings attributable to Kirby would not be materially different from the Company's actual results.

During 2020, the Company purchased six newly constructed inland pressure barges for $39,350,000 in cash.

On April 1, 2020, the Company completed the acquisition of the inland tank barge fleet of Savage Inland Marine, LLC ("Savage") for $278,999,000 in cash. Savage's tank barge fleet consisted of 92 inland tank barges with approximately 2.5 million barrels of capacity and 45 inland towboats. The Savage assets that were acquired primarily move petrochemicals, refined products, and crude oil on the Mississippi River, its tributaries, and the Gulf Intracoastal Waterway. The Company also acquired Savage's ship bunkering business and barge fleeting business along the Gulf Coast. The Company considers Savage to be a natural extension of the current marine transportation segment, expanding the capabilities of the Company's inland based marine transportation business and lowering the average age of its fleet.

On January 3, 2020, the Company completed the acquisition of substantially all the assets of Convoy Servicing Company and Agility Fleet Services, LLC (collectively "Convoy") for $37,180,000 in cash. Convoy is an authorized dealer for Thermo King refrigeration systems for trucks, railroad cars and other land transportation markets for North and East Texas and Colorado.

The fair values of the assets acquired and liabilities assumed from the Savage and Convoy acquisitions recorded at the respective acquisition dates were as follows (in thousands):

	Savage	Convoy
Accounts receivable	$ —	$ 5,677
Inventories	—	11,771
Prepaid expenses	1,067	177
Property and equipment	210,065	415
Operating lease right-of-use assets	27,085	3,713
Goodwill	81,635	10,309
Other intangibles	2,300	17,170
Total assets	$ 322,152	$ 49,232
Accounts payable and accrued liabilities	$ 68	$ 8,339
Operating lease liabilities, including current portion	43,085	3,713
Total liabilities	$ 43,153	$ 12,052
Net assets acquired	$ 278,999	$ 37,180

The Company acquired customer relationships with an estimated value of $2,300,000 from Savage with an amortization period of 10 years. Acquisition related costs of $376,000, consisting primarily of legal and other professional fees, were expensed as incurred to selling, general and administrative expense. All goodwill recorded for the Savage acquisition will be deductible for tax purposes.

The Company acquired intangible assets from Convoy with a weighted average amortization period of 11 years, consisting of $9,000,000 for customer relationships with an amortization period of 10 years, $8,000,000 for distributorships with an amortization period of 12 years and $170,000 for non-compete agreements with an amortization period of three years. All goodwill recorded for the Convoy acquisition will be deductible for tax purposes.

During the year ended December 31, 2019, the Company purchased, from various counterparties, a barge fleeting operation in Lake Charles, Louisiana and nine inland tank barges from leasing companies for an aggregate of $17,991,000 in cash. The Company had been leasing the barges prior to the purchases.

On March 14, 2019, the Company completed the acquisition of the marine transportation fleet of Cenac Marine Services, LLC ("Cenac") for $244,500,000 in cash. Cenac's fleet consisted of 63 inland 30,000 barrel tank barges with approximately 1,833,000 barrels of capacity, 34 inland towboats and two offshore tugboats. Cenac transported petrochemicals, refined products and black oil, including crude oil, residual fuels, feedstocks and lubricants on the lower Mississippi River, its tributaries, and the Gulf Intracoastal Waterway for major oil companies and refiners. The average age of the inland tank barges was approximately five years and the inland towboats had an average age of approximately seven years. The Company considers Cenac to be a natural extension of the current marine transportation segment, expanding the capabilities of the Company's inland based marine transportation business and lowering the average age of its inland tank barge and towboat fleet.

The fair values of the assets acquired and liabilities assumed from the Cenac acquisition and recorded at the acquisition date were as follows (in thousands):

Prepaid expenses	$ 1,138
Property and equipment	247,122
Other intangibles	340
Total assets	$ 248,600
Other long-term liabilities	$ 4,100
Net assets acquired	$ 244,500

The Company acquired intangible assets with an amortization period of two years and incurred long-term intangible liabilities related to unfavorable contracts with a weighted average amortization period of approximately 1.3 years. Acquisition related costs of $442,000, consisting primarily of legal and other professional fees, were expensed as incurred to selling, general and administrative expense in 2019.

(3) Revenues

The following table sets forth the Company's revenues by major source (in thousands):

	Year Ended December 31,		
	2021	2020	2019
Marine transportation segment:			
Inland transportation	$ 1,005,145	$ 1,094,630	$ 1,220,878
Coastal transportation	317,773	309,635	366,204
	$ 1,322,918	$ 1,404,265	$ 1,587,082
Distribution and services segment:			
Commercial and industrial	$ 578,011	$ 566,326	$ 591,953
Oil and gas	345,731	200,817	659,364
	$ 923,742	$ 767,143	$ 1,251,317

The Company's revenue is measured based on consideration specified in its contracts with its customers. The Company recognizes revenue over time as it provides services to its customers, or at the point in time that control over a part or product transfers to its customer.

Contract Assets and Liabilities. Contract liabilities represent advance consideration received from customers, and are recognized as revenue over time or at a point in time as the related performance obligation is satisfied. Revenues recognized during the years ended December 31, 2021, 2020, and 2019, that were included in the opening contract liability balances were $40,925,000, $38,455,000 and $76,412,000, respectively. The Company has recognized all contract liabilities within the deferred revenues financial statement caption on the balance sheet. The Company did not have any contract assets at December 31, 2021 or December 31, 2020. The Company applies the practical expedient that allows non-disclosure of information about remaining performance obligations that have original expected durations of one year or less.

(4) Segment Data

The Company's operations are aggregated into two reportable business segments as follows:

Marine Transportation — Provides marine transportation by United States flagged vessels principally of liquid cargoes throughout the United States inland waterway system, along all three United States coasts, and to a lesser extent, in United States coastal transportation of dry-bulk cargoes. The principal products transported include petrochemicals, black oil, refined petroleum products and agricultural chemicals.

Distribution and Services — Provides after-market service and genuine replacement parts for engines, transmissions, reduction gears and related equipment used in oilfield services, marine, power generation, on-highway, and other industrial applications. The Company also rents equipment including generators, industrial compressors, high capacity lift trucks, and refrigeration trailers for use in a variety of industrial markets, and manufactures and remanufactures oilfield service equipment, including pressure pumping units, electric power generation equipment, specialized electrical distribution and control equipment, and high capacity energy storage/battery systems for oilfield service customers.

The Company's two reportable business segments are managed separately based on fundamental differences in their operations. The Company's accounting policies for the business segments are the same as those described in Note 1, Summary of Significant Accounting Policies. The Company evaluates the performance of its segments based on the contributions to operating income of the respective segments, and before income taxes, interest, gains or losses on disposition of assets, other nonoperating income, noncontrolling interests, accounting changes, and nonrecurring items. Intersegment revenues, based on market-based pricing, of the distribution and services segment from the marine transportation segment of $23,632,000, $27,782,000, and $27,441,000 in 2021, 2020, and 2019, respectively, as well as the related intersegment profit of $2,363,000, $2,778,000, and $2,744,000 in 2021, 2020, and 2019, respectively, have been eliminated from the tables below.

The following tables set forth by reportable segment the revenues, profit or loss, total assets, depreciation and amortization, and capital expenditures attributable to the principal activities of the Company (in thousands):

	Year Ended December 31,		
	2021	2020	2019
Revenues:			
Marine transportation	$ 1,322,918	$ 1,404,265	$ 1,587,082
Distribution and services	923,742	767,143	1,251,317
	$ 2,246,660	$ 2,171,408	$ 2,838,399
Segment profit (loss):			
Marine transportation	$ 63,015	$ 163,638	$ 215,842
Distribution and services	27,607	(12,191)	67,201
Other	(381,223)	(612,798)	(93,223)
	$ (290,601)	$ (461,351)	$ 189,820
Depreciation and amortization:			
Marine transportation	$ 185,979	$ 186,798	$ 179,742
Distribution and services	20,573	28,255	35,998
Other	7,166	4,868	3,892
	$ 213,718	$ 219,921	$ 219,632
Capital expenditures:			
Marine transportation	$ 84,353	$ 133,990	$ 217,364
Distribution and services	8,104	4,854	18,284
Other	5,558	9,341	12,516
	$ 98,015	$ 148,185	$ 248,164

	December 31,	
	2021	2020
Total assets:		
Marine transportation	$ 4,319,080	$ 4,760,449
Distribution and services	892,603	805,831
Other	187,380	357,894
	$ 5,399,063	$ 5,924,174

The following table presents the details of “Other” segment profit (loss) (in thousands):

	Year Ended December 31,		
	2021	2020	2019
General corporate expenses	$ (13,803)	$ (11,050)	$ (13,643)
Gain on disposition of assets	5,761	118	8,152
Impairments and other charges	(340,713)	(561,274)	(35,525)
Interest expense	(42,469)	(48,739)	(55,994)
Other income	10,001	8,147	3,787
	$ (381,223)	$ (612,798)	$ (93,223)

The following table presents the details of “Other” total assets (in thousands):

	December 31,	
	2021	2020
General corporate assets	$ 185,246	$ 355,205
Investment in affiliates	2,134	2,689
	$ 187,380	$ 357,894

(5) Long-Term Debt

The following table presents the carrying value and fair value of debt outstanding (in thousands):

	December 31,			
	2021		2020	
	Carrying Value	Fair Value	Carrying Value	Fair Value
Revolving Credit Facility due March 27, 2024 (a)	$ —	$ —	$ 250,000	$ 250,000
Term Loan due March 27, 2024 (a)	315,000	315,000	375,000	375,000
3.29% senior notes due February 27, 2023	350,000	358,390	350,000	364,538
4.2% senior notes due March 1, 2028	500,000	549,239	500,000	581,115
Credit Line due June 30, 2022	—	—	—	—
Bank notes payable	1,934	1,934	40	40
	1,166,934	1,224,563	1,475,040	1,570,693
Unamortized debt discounts and issuance costs (b)	(3,567)	—	(6,454)	—
	$ 1,163,367	$ 1,224,563	$ 1,468,586	$ 1,570,693

(a) Variable interest rate of 1.5% at both December 31, 2021 and 2020.
(b) Excludes $1,403,000 attributable to the Revolving Credit Facility included in other assets at December 31, 2021.

The fair value of debt outstanding was determined using inputs characteristic of a Level 2 fair value measurement.

The following table presents borrowings and payments under the bank credit facilities (in thousands):

	Year Ended December 31,		
	2021	2020	2019
Borrowings on bank credit facilities	$ 6,162	$ 582,277	$ 1,351,158
Payments on bank credit facilities	(254,267)	(332,253)	(1,768,534)
	$ (248,105)	$ 250,024	$ (417,376)

The aggregate payments due on the long-term debt in each of the next five years were as follows (in thousands):

2022	1,934
2023	350,000
2024	315,000
2025	—
2026	—
Thereafter	500,000
	$ 1,166,934

The Company has an amended and restated credit agreement ("Credit Agreement") with a group of commercial banks, with JPMorgan Chase Bank, N.A. as the administrative agent bank, allowing for an $850,000,000 revolving credit facility ("Revolving Credit Facility") and an unsecured term loan ("Term Loan") with a maturity date of March 27, 2024. The Credit Agreement provides for a variable interest rate based on the London interbank offered rate ("LIBOR") or a base rate calculated with reference to the agent bank's prime rate, among other factors (the "Alternate Base Rate"). The interest rate varies with the Company's credit rating and is currently 112.5 basis points over LIBOR or 12.5 basis points over the Alternate Base Rate. The Term Loan is due on March 27, 2024 and is prepayable, in whole or in part, without penalty. During 2021 and 2020, the Company repaid $60,000,000 and $125,000,000, respectively, under the Term Loan prior to the originally scheduled installments. The Credit Agreement contains certain financial covenants including an interest coverage ratio and a debt-to-capitalization ratio. In addition to financial covenants, the Credit Agreement contains covenants that, subject to exceptions, restrict debt incurrence, mergers and acquisitions, sales of assets, dividends and investments, liquidations and dissolutions, capital leases, transactions with affiliates and changes in lines of business. The Credit Agreement specifies certain events of default, upon the occurrence of which the maturity of the outstanding loans may be accelerated, including the failure to pay principal or interest, violation of covenants and default on other indebtedness, among other events. Borrowings under the Credit Agreement may be used for general corporate purposes including acquisitions. As of December 31, 2021, the Company was in compliance with all Credit Agreement covenants. The Revolving Credit Facility includes a $25,000,000 commitment which may be used for standby letters of credit. Outstanding letters of credit under the Revolving Credit Facility were $5,063,000 and available borrowing capacity was $844,937,000 as of December 31, 2021.

The Company has $350,000,000 of 3.29% senior unsecured notes due February 27, 2023 (the "2023 Notes"). No principal payments are required until maturity. The 2023 Notes contain certain covenants on the part of the Company, including an interest coverage covenant, a debt-to-capitalization covenant, and covenants relating to liens, asset sales and mergers, among others. The 2023 Notes also specify certain events of default, upon the occurrence of which the maturity of the notes may be accelerated, including failure to pay principal and interest, violation of covenants or default on other indebtedness, among others.

The Company has $500,000,000 of 4.2% senior unsecured notes due March 1, 2028 (the “2028 Notes”) with U.S. Bank National Association, as trustee. No principal payments are required until maturity. Interest payments of $10,500,000 are due semi-annually on March 1 and September 1 of each year. The 2028 Notes are unsecured and rank equally in right of payment with the Company’s other unsecured senior indebtedness. The 2028 Notes contain certain covenants on the part of the Company, including covenants relating to liens, sale-leasebacks, asset sales and mergers, among others. The 2028 Notes also specify certain events of default, upon the occurrence of which the maturity of the notes may be accelerated, including failure to pay principal and interest, violation of covenants or default on other indebtedness, among others.

On February 3, 2022, the Company entered into a note purchase agreement for the issuance of $300,000,000 of unsecured senior notes with a group of institutional investors, consisting of $60,000,000 of 3.46% series A notes ("Series A Notes") and $240,000,000 of 3.51% series B notes ("Series B Notes"), each due January 19, 2033 (collectively, the "2033 Notes"). The Series A Notes are scheduled to be issued on October 20, 2022, and the Series B Notes are scheduled to be issued on January 19, 2023. No principal payments will be required until maturity. Beginning in 2023, interest payments of $5,250,000 will be due semi-annually on January 19 and July 19 of each year, with the exception of the first payment on January 19, 2023, which will be $525,000. The 2033 Notes will be unsecured and rank equally in right of payment with the Company's other unsecured senior indebtedness. The 2033 Notes contain certain covenants on the part of the Company, including an interest coverage covenant, a debt-to-capitalization covenant, and covenants relating to liens, asset sales and mergers, among others. The 2033 Notes also specify certain events of default, upon the occurrence of which the maturity of the notes may be accelerated, including failure to pay principal and interest, violation of covenants or default on other indebtedness, among others. The Company intends to use the proceeds from the issuance of the 2033 Notes and cash provided by operations to repay the 2023 Notes upon maturity.

The Company has a $10,000,000 line of credit (“Credit Line”) with Bank of America, N.A. (“Bank of America”) for short-term liquidity needs and letters of credit, with a maturity date of June 30, 2022. The Credit Line allows the Company to borrow at an interest rate agreed to by Bank of America and the Company at the time each borrowing is made or continued. The Company had no borrowings outstanding under the Credit Line as of December 31, 2021. Outstanding letters of credit under the Credit Line were $1,299,000 and available borrowing capacity was $8,701,000 as of December 31, 2021.

The Company also had $1,934,000 and $40,000 of short-term unsecured loans outstanding, as of December 31, 2021 and 2020, respectively, related to its South American operations.

On February 27, 2020, upon maturity, the Company repaid in full $150,000,000 of 2.72% unsecured senior notes.

As of December 31, 2021, the Company was in compliance with all covenants under its debt instruments.

(6) Leases

The Company currently leases various facilities and equipment under cancelable and noncancelable operating leases. The accounting for the Company’s leases may require judgments, which include determining whether a contract contains a lease, allocating the consideration between lease and non-lease components, and determining the incremental borrowing rates. Leases with an initial noncancelable term of 12 months or less are not recorded on the balance sheet and the related lease expense is recognized on a straight-line basis over the lease term. The Company has also elected to combine lease and non-lease components on all classes of leased assets, except for leased towing vessels for which the Company estimates approximately 70% of the costs relate to service costs and other non-lease components. Variable lease costs relate primarily to real estate executory costs (i.e. taxes, insurance and maintenance).

Future minimum lease payments under operating leases that have initial noncancelable lease terms in excess of one year were as follows (in thousands):

2022	$	41,685
2023		35,833
2024		28,837
2025		23,794
2026		18,361
Thereafter		91,237
Total lease payments		239,747
Less: imputed interest		(46,173)
Operating lease liabilities	$	193,574

The following table summarizes lease costs (in thousands):

	Year Ended December 31,		
	2021	2020	2019
Operating lease cost	$ 40,786	$ 43,810	$ 39,064
Variable lease cost	1,793	1,550	2,326
Short-term lease cost	17,914	25,387	31,340
Sublease income	(1,032)	(1,143)	(420)
Total lease cost	$ 59,461	$ 69,604	$ 72,310

The following table summarizes other supplemental information about the Company's operating leases:

	December 31,		
	2021	2020	2019
Weighted average discount rate	3.8%	4.1%	4.0%
Weighted average remaining lease term	9 years	10 years	11 years

(7) Impairments and Other Charges

During the third quarter of 2021, the Company decided to exit the Hawaii market, selling marine transportation equipment including four coastal tank barges, seven coastal tugboats, and certain other assets for aggregate cash proceeds of $17,200,000. In addition, as of September 30, 2021, the Company retired and classified as held for sale, an additional 12 coastal tank barges and four coastal tugboats which were underutilized. The sales and retirements of coastal marine transportation equipment resulted in an aggregate non-cash impairment charge of $97,508,000 to reduce the carrying value of these assets to their estimated sales prices, net of costs to sell.

As a result of the sale of the Hawaii marine transportation equipment, and the decision to retire certain additional underutilized coastal tank barges and tugboats, the Company concluded that a triggering event had occurred and performed interim quantitative impairment tests as of September 30, 2021 for certain of the marine transportation segment's long-lived assets and goodwill within the coastal marine market.

The Company determined the estimated fair value of such long-lived assets using a combination of a cost approach, a discounted cash flow analysis, and a market approach. The Company determined the estimated fair value of the reporting unit using a combination of a discounted cash flow analysis and a market approach for comparable companies. These analyses included management's judgment regarding short-term and long-term internal forecasts, updated for recent events, appropriate discount rates, and capital expenditures using inputs characteristic of a Level 3 fair value measurement.

In performing the impairment test of certain long-lived assets within the marine transportation segment, the Company determined that the carrying value of certain long-lived assets, including certain coastal marine transportation equipment and operating lease right-of-use assets, were no longer recoverable, resulting in a non-cash impairment charge of $24,152,000 during the three months ended September 30, 2021 to reduce such long-lived assets to fair value.

Based upon the results of the goodwill impairment test, the Company concluded that the carrying value of one reporting unit in the marine transportation segment exceeded its estimated fair value. The carrying value of the reporting unit, including goodwill, and after recording impairments of long-lived assets identified above, exceeded its estimated fair value, resulting in a non-cash goodwill impairment charge of $219,052,000 for the three months ended September 30, 2021.

During the first quarter of 2020, Kirby's market capitalization declined significantly compared to the fourth quarter of 2019. Over the same period, the overall United States stock market also declined significantly amid market volatility. In addition, as a result of uncertainty surrounding the outbreak of COVID-19 and a sharp decline in oil prices during the 2020 first quarter, many of the Company's oil and gas customers responded by quickly cutting 2020 capital spending budgets and activity levels quickly declined. Lower activity levels resulted in a decline in drilling activity, resulting in lower demand for new and remanufactured oilfield equipment and related parts and service in the distribution and services segment. As a result, the Company concluded that a triggering event had occurred and performed interim quantitative impairment tests as of March 31, 2020 for certain of the distribution and services segment's long-lived assets and goodwill.

The Company determined the estimated fair value of such long-lived assets and reporting units using a discounted cash flow analysis and a market approach for comparable companies. This analysis included management's judgment regarding short-term and long-term internal forecasts, updated for recent events, appropriate discount rates, and capital expenditures using inputs characteristic of a Level 3 fair value measurement.

In performing the impairment test of long-lived assets within the distribution and services segment, the Company determined that the carrying value of certain long-lived assets, including property and equipment as well as intangible assets associated with customer relationships, tradenames, and distributorships, were no longer recoverable, resulting in an impairment charge of $165,304,000 (including $148,909,000 impairment of intangible assets other than goodwill and $16,395,000 impairment of property and equipment) to reduce such long-lived assets to fair value during the three months ended March 31, 2020.

Based upon the results of the goodwill impairment test, the Company concluded that the carrying value of one reporting unit in the distribution and services segment exceeded its estimated fair value. For the three months ended March 31, 2020, the goodwill impairment charge of $387,970,000 was calculated as the amount that the carrying value of the reporting unit, including goodwill, and after recording impairments of long-lived assets identified above, exceeded its estimated fair value, incorporating all tax impacts caused by the recognition of the impairment loss.

In addition, the Company determined cost exceeded net realizable value for certain oilfield and pressure pumping related inventory, resulting in an $8,000,000 non-cash write-down during the three months ended March 31, 2020.

During the fourth quarter of 2019, the Company recorded a $35,525,000 non-cash pre-tax write-down of oilfield and pressure pumping related inventory in the distribution and services segment.

(8) Stock Award Plans

The Company has share-based compensation plans which are described below. The compensation cost that has been charged against earnings for the Company's stock award plans and the income tax benefit recognized in the statement of earnings for stock awards were as follows (in thousands):

	Year Ended December 31,		
	2021	2020	2019
Compensation cost	$ 15,713	$ 14,722	$ 13,612
Income tax benefit	$ 4,410	$ 4,143	$ 3,368

The Company has an employee stock award plan for selected officers and other key employees which provides for the issuance of RSUs, stock options, restricted stock awards, and performance awards. Restricted stock and RSUs generally vest ratably over five years, however, the plan includes a provision for the continued vesting of unvested stock options and RSUs for employees who meet certain years of service and age requirements at the time of their retirement. The provision results in shorter expense accrual periods on stock options and RSUs granted to employees who are nearing retirement and meet the service and age requirements.

On March 1, 2021, subject to stockholder approval, the Board of Directors approved amendments to the Company's 2005 Stock and Incentive Plan (the "Plan") to, among other things, add 1,400,000 shares of availability. The amendment to the Plan was subsequently approved at the Annual Meeting of Stockholders on April 27, 2021. At December 31, 2021, there were 2,202,589 shares available for future grants under the Plan.

The exercise price for each option equals the fair market value per share of the Company's common stock on the date of grant. Substantially all stock options outstanding under the plan have terms of seven years and vest ratably over three years. No performance awards payable in stock have been awarded under the plan and no outstanding stock options under the employee plan were issued with stock appreciation rights.

The following is a summary of the stock option activity under the employee plan described above:

	Outstanding Non-Qualified or Nonincentive Stock Awards	Weighted Average Exercise Price
Outstanding at December 31, 2020	577,517	$ 72.09
Exercised	(2,424)	$ 51.23
Forfeited or expired	(37,326)	$ 93.96
Outstanding at December 31, 2021	537,767	$ 70.66

The following table summarizes information about the Company's outstanding and exercisable stock options under the employee plan at December 31, 2021:

	Options Outstanding				Options Exercisable		
Range of Exercise Prices	Number Outstanding	Weighted Average Remaining Contractual Life in Years	Weighted Average Exercise Price	Aggregated Intrinsic Value	Number Exercisable	Weighted Average Exercise Price	Aggregated Intrinsic Value
$51.23	59,891	1.1	$ 51.23		59,891	$ 51.23	
$64.65 – $68.50	92,385	2.5	$ 67.24		92,385	$ 67.24	
$73.29 – $75.50	378,786	3.6	$ 74.32		266,478	$ 74.67	
$84.90	6,705	4.3	$ 84.90		4,470	$ 84.90	
$51.23 – $84.90	537,767	3.2	$ 70.66	$ 491,000	423,224	$ 69.84	$ 491,000

The following is a summary of the restricted stock award activity under the employee plan described above:

	Unvested Restricted Stock Award Shares	Weighted Average Grant Date Fair Value Per Share
Nonvested balance at December 31, 2020	83,902	$ 63.33
Vested	(65,037)	$ 61.77
Forfeited	(441)	$ 68.50
Nonvested balance at December 31, 2021	18,424	$ 68.72

No restricted stock awards were granted under the employee plan during 2021, 2020, and 2019.

The following is a summary of RSU activity under the employee plan described above:

	Unvested RSUs	Weighted Average Grant Date Fair Value Per Unit
Nonvested balance at December 31, 2020	338,418	$ 74.09
Granted	339,092	$ 51.36
Vested	(83,304)	$ 74.29
Forfeited	(3,227)	$ 63.97
Nonvested balance at December 31, 2021	590,979	$ 61.07

The weighted average grant date fair value of RSUs granted for the years ended December 31, 2021, 2020, and 2019 was $51.36, $73.04, and $74.46, respectively.

During January 2022, the Company granted 196,915 RSUs to selected officers and other key employees under its employee stock award plan, which vest ratably over five years.

The Company has a stock award plan for nonemployee directors of the Company which provides for the issuance of stock options and restricted stock. The director plan provides for automatic grants of restricted stock to nonemployee directors after each annual meeting of stockholders. In addition, the director plan allows for the issuance of stock options or restricted stock in lieu of cash for all or part of the annual director fee at the option of the director. The exercise prices for all options granted under the plan are equal to the fair market value per share of the Company's common stock on the date of grant. The terms of the options are ten years. The restricted stock issued after each annual meeting of stockholders vests six months after the date of grant. Options granted and restricted stock issued in lieu of cash director fees vest in equal quarterly increments during the year to which they relate. At December 31, 2021, 391,447 shares were available for future grants under the director plan. The director stock award plan is intended as an incentive to attract and retain qualified independent directors.

The following is a summary of the stock option activity under the director plan described above:

	Outstanding Non-Qualified or Nonincentive Stock Awards	Weighted Average Exercise Price
Outstanding at December 31, 2020	103,756	$ 77.44
Exercised	(14,776)	$ 57.06
Outstanding at December 31, 2021	88,980	$ 80.82

The following table summarizes information about the Company's outstanding and exercisable stock options under the director plan at December 31, 2021:

	Options Outstanding				Options Exercisable		
Range of Exercise Prices	Number Outstanding	Weighted Average Remaining Contractual Life in Years	Weighted Average Exercise Price	Aggregate Intrinsic Value	Number Exercisable	Weighted Average Exercise Price	Aggregate Intrinsic Value
$61.89 – $62.48	20,500	0.6	$ 62.19		20,500	$ 62.19	
$70.65 – $99.52	68,480	2.1	$ 86.39		68,480	$ 86.39	
$61.89 – $99.52	88,980	1.8	$ 80.82	$ —	88,980	$ 80.82	$ —

The following is a summary of the restricted stock award activity under the director plan described above:

	Unvested Restricted Stock Award Shares	Weighted Average Grant Date Fair Value Per Share
Nonvested balance at December 31, 2020	904	$ 49.84
Granted	29,773	$ 65.13
Vested	(27,340)	$ 65.41
Nonvested balance at December 31, 2021	3,337	$ 58.70

The weighted average grant date fair value of restricted stock awards granted under the director plan for the years ended December 31, 2021, 2020, and 2019 were $65.13, $49.84, and $84.81, respectively.

The total intrinsic value of all stock options exercised under all of the Company's plans was $115,000, $745,000, and $1,655,000 for the years ended December 31, 2021, 2020, and 2019, respectively. The actual tax benefit realized for tax deductions from stock option exercises was $32,000, $210,000, and $410,000 for the years ended December 31, 2021, 2020, and 2019, respectively.

The total fair value of all the restricted stock vestings under all of the Company's plans was $5,344,000, $5,649,000, and $5,917,000 for the years ended December 31, 2021, 2020, and 2019, respectively. The actual tax benefit realized for tax deductions from restricted stock vestings was $1,500,000, $1,590,000, and $1,464,000 for the years ended December 31, 2021, 2020, and 2019, respectively.

The total fair value of all the RSU vestings under the Company's employee plan was $4,419,000, $5,172,000 and $1,727,000 for the years ended December 31, 2021, 2020, and 2019 respectively. The actual tax benefit realized for tax deductions from RSU vestings was $1,240,000, $1,455,000 and $427,000 for the years ended December 31, 2021, 2020, and 2019 respectively.

As of December 31, 2021, there was $684,000 of unrecognized compensation cost related to nonvested stock options, $180,000 related to restricted stock and $19,443,000 related to nonvested RSUs. The stock options are expected to be recognized over a weighted average period of approximately 0.6 years, restricted stock over approximately 0.1 years and RSUs over approximately 3.1 years.

The weighted average per share fair value of stock options granted during the years ended December 31, 2020 and 2019 was $20.19 and $22.77, respectively. The fair value of the stock options granted during the years ended December 31, 2020 and 2019 was $2,314,000 and $2,666,000, respectively. There were no stock options granted under the employee plan during the year ended December 31, 2021 and no stock options granted under the director plan during the years ended December 31, 2021 and 2020. The Company currently uses treasury stock shares for restricted stock grants, RSU vestings, and stock option exercises. The fair value of each stock option was determined using the Black-Scholes option pricing model.

The key input variables used in valuing the stock options granted were as follows:

	Year Ended December 31,	
	2020	2019
Dividend yield	None	None
Average risk-free interest rate	1.3%	2.5%
Stock price volatility	28%	28%
Estimated option term	5.3 years	5.3 years

(9) Taxes on Income

Earnings (loss) before taxes on income and details of the provision (benefit) for taxes on income were as follows (in thousands):

	Year Ended December 31,		
	2021	2020	2019
Earnings (loss) before taxes on income:			
United States	$ (290,181)	$ (461,569)	$ 190,839
Foreign	(420)	218	(1,019)
	$ (290,601)	$ (461,351)	$ 189,820
Provision (benefit) for taxes on income:			
U.S. Federal:			
Current	$ (460)	$ (218,613)	$ (312)
Deferred	(48,843)	37,436	45,133
	$ (49,303)	$ (181,177)	$ 44,821
U.S. State:			
Current	$ 1,560	$ 3,421	$ 76
Deferred	4,424	(12,273)	1,706
	$ 5,984	$ (8,852)	$ 1,782
Foreign:			
Current	$ (511)	$ 270	$ 198
	$ (511)	$ 270	$ 198
Consolidated:			
Current	$ 589	$ (214,922)	$ (38)
Deferred	(44,419)	25,163	46,839
	$ (43,830)	$ (189,759)	$ 46,801

On November 13, 2021, the voters of the state of Louisiana approved a constitutional amendment that removed the corporate tax deduction for federal income taxes paid and lowered the corporate income tax rate from 8% to 7.5% effective January 1, 2022. The result of the amendment was an increase in the effective Louisiana state income tax rate, net of deduction for federal income tax, from 6.3% to 7.5%. As a result of the amendment, the Company recognized a one-time deferred tax provision of $5,656,000 during the fourth quarter of 2021 due to remeasuring the Company's Louisiana and U.S. deferred tax assets and liabilities based on the new effective Louisiana state income tax rate.

On March 27, 2020, the United States Congress passed and the President signed the Coronavirus Aid, Relief, and Economic Security Act ("CARES Act") into law to address the COVID-19 pandemic. One provision of the CARES Act allows net operating losses generated in 2018 through 2020 to be carried back up to five years. Pursuant to this provision of the CARES Act, the Company recorded a net federal current benefit for taxes on income for the year ended December 31, 2020 due to carrying back net operating losses generated between 2018 and 2020 used to offset taxable income generated between 2013 and 2017. Net operating losses carried back to tax years 2013 through 2017 are applied at a federal tax rate of 35% applicable to those tax years, compared to a 21% tax rate effective at December 31, 2020. Net operating losses generated in 2018 and 2019 were used to offset taxable income generated between 2013 and 2017 taxed at 35% resulting in a tax benefit of $59,659,000 and a decrease in the company's deferred tax asset related to federal net operating losses of $88,292,000.

At December 31, 2021 and 2020, the Company had a federal income tax receivable of $70,973,000 and $188,177,000, respectively, included in Accounts Receivable – Other on the balance sheet. During 2021, the Company received a tax refund of $119,493,000, including accrued interest, for its 2019 tax return related to net operating losses being carried back to offset taxable income generated between 2014 and 2017. During 2020, the Company received a tax refund of $30,606,000 for its 2018 tax return related to net operating losses being carried back to offset taxable income generated during 2013.

The Company's provision (benefit) for taxes on income varied from the statutory federal income tax rate due to the following:

	Year Ended December 31,		
	2021	2020	2019
United States income tax statutory rate	21.0%	21.0%	21.0%
State and local taxes, net of federal benefit	(1.7)	1.2	0.7
CARES Act – net operating loss carryback	—	21.3	—
Other – net	(4.2)	(2.4)	3.0
	15.1%	41.1%	24.7%

The tax effects of temporary differences that give rise to significant portions of the deferred tax assets and liabilities were as follows (in thousands):

	December 31,	
	2021	2020
Deferred tax assets:		
Allowance for doubtful accounts	$ 1,657	$ 1,793
Inventory	13,180	13,496
Insurance accruals	4,052	4,864
Deferred compensation	6,081	6,040
Unrealized loss on defined benefit plans	6,126	15,929
Goodwill and other intangibles	65,852	44,487
Operating loss carryforwards	89,966	82,186
Retirement benefits	7,194	7,444
Other	6,247	5,480
	200,355	181,719
Valuation allowances	(20,095)	(18,025)
	180,260	163,694
Deferred tax liabilities:		
Property	(655,550)	(678,916)
Deferred state taxes	(83,491)	(74,468)
Other	(15,371)	(17,154)
	(754,412)	(770,538)
	$ (574,152)	$ (606,844)

During 2021, the Company generated a federal tax net operating loss mainly caused by taking the full cost deduction of purchased fixed assets. The deferred tax assets of $57,168,000 has been recorded at December 31, 2021.

The Company had state operating loss deferred tax assets of $27,607,000 in 2021 and $23,482,000 in 2020. The valuation allowance for state deferred tax assets as of December 31, 2021 and 2020 was $14,904,000 and $12,819,000, respectively, related to the Company's state net operating loss carryforwards based on the Company's determination that it is more likely than not that the deferred tax assets will not be realized. Expiration of these state net operating loss carryforwards vary by state through 2028 and none will expire in fiscal 2022.

As of December 31, 2021, the Company had a Canadian net operating loss carryforward of $5,191,000 which expires between 2037 and 2041. A full valuation allowance has been provided for this asset.

The Company or one of its subsidiaries files income tax returns in the United States federal jurisdiction and various state jurisdictions. The Company's federal income tax returns for the 2017 through 2020 tax years are currently under examination. With few exceptions, the Company and its subsidiaries' state income tax returns are open to audit under the statute of limitations for the 2015 through 2020 tax years.

As of December 31, 2021, the Company has provided a liability of $893,000 for unrecognized tax benefits related to various income tax issues which includes interest and penalties. The amount that would impact the Company's effective tax rate, if recognized, is $720,000, with the difference between the total amount of unrecognized tax benefits and the amount that would impact the effective tax rate being primarily related to the federal tax benefit of state income tax items. It is not reasonably possible to determine if the liability for unrecognized tax benefits will significantly change prior to December 31, 2022 due to the uncertainty of possible examination results.

A reconciliation of the beginning and ending amount of the liability for unrecognized tax benefits is as follows (in thousands):

	Year Ended December 31, 2021	2020	2019
Balance at beginning of year	$ 783	$ 883	$ 1,443
Additions based on tax positions related to the current year	13	262	51
Additions for tax positions of prior years	281	114	58
Reductions for tax positions of prior years	(340)	(266)	(669)
Settlements	—	(210)	—
Balance at end of year	$ 737	$ 783	$ 883

The Company accounts for interest and penalties related to uncertain tax positions as part of its provision for federal and state income taxes. The Company recognized net benefit of $34,000, $90,000, and $71,000 in interest and penalties for the years ended December 31, 2021, 2020, and 2019, respectively. The Company had $138,000 and $172,000 of accrued liabilities for the payment of interest and penalties at December 31, 2021 and 2020, respectively.

(10) Earnings Per Share

The following table presents the components of basic and diluted earnings (loss) per share (in thousands, except per share amounts):

	Year Ended December 31, 2021	2020	2019
Net earnings (loss) attributable to Kirby	$ (246,954)	$ (272,546)	$ 142,347
Undistributed earnings allocated to restricted shares	—	—	(369)
Earnings (loss) available to Kirby common stockholders — basic	(246,954)	(272,546)	141,978
Undistributed earnings allocated to restricted shares	—	—	369
Undistributed earnings reallocated to restricted shares	—	—	(369)
Earnings (loss) available to Kirby common stockholders — diluted	$ (246,954)	$ (272,546)	$ 141,978
Shares outstanding:			
Weighted average common stock issued and outstanding	60,099	60,021	59,905
Weighted average unvested restricted stock	(46)	(109)	(155)
Weighted average common stock outstanding — basic	60,053	59,912	59,750
Dilutive effect of stock options and restricted stock units	—	—	159
Weighted average common stock outstanding — diluted	60,053	59,912	59,909
Net earnings (loss) per share attributable to Kirby common stockholders:			
Basic	$ (4.11)	$ (4.55)	$ 2.38
Diluted	$ (4.11)	$ (4.55)	$ 2.37

Certain outstanding options to purchase approximately 567,000, 681,000, and 187,000 shares of common stock were excluded in the computation of diluted earnings per share as of December 31, 2021, 2020, and 2019, respectively, as such stock options would have been antidilutive. Certain outstanding RSUs to convert to 7,000 and 11,000 shares of common stock were also excluded in the computation of diluted earnings per share as of December 31, 2021 and 2020, respectively, as such RSUs would have been antidilutive. No RSUs were antidilutive at December 31, 2019.

(11) Inventories

The following table presents the details of inventories (in thousands):

	December 31, 2021	2020
Finished goods	$ 260,707	$ 255,491
Work in process	70,643	54,184
	$ 331,350	$ 309,675

(12) Retirement Plans

The Company sponsors a defined benefit plan (the "Kirby Pension Plan") for its inland vessel personnel and shore based tankermen. The plan benefits are based on an employee's years of service and compensation. The plan assets consist primarily of equity and fixed income securities.

On April 12, 2017, the Company amended the Kirby Pension Plan to cease all benefit accruals for periods after May 31, 2017 for certain participants. Participants grandfathered and not impacted were those, as of the close of business on May 31, 2017, who either (a) had completed 15 years of pension service or (b) had attained age 50 and completed 10 years of pension service. Participants non-grandfathered are eligible to receive discretionary 401(k) plan contributions.

On February 14, 2018, with the acquisition of Higman, the Company assumed Higman's pension plan (the "Higman Pension Plan") for its inland vessel personnel and office staff. On March 27, 2018, the Company amended the Higman Pension Plan to close it to all new entrants and cease all benefit accruals for periods after May 15, 2018 for all participants. The Company made contributions to the Higman Pension Plan of $479,000 in 2021, $797,000 in 2020 for the 2019 plan year, $1,438,000 in 2020 for the 2020 plan year, $1,615,000 in 2019 for the 2018 plan year, and $1,449,000 in 2019 for the 2019 plan year.

The aggregate fair value of plan assets of the Company's pension plans was $430,821,000 and $395,137,000 at December 31, 2021 and 2020 respectively. Pension assets were allocated among asset categories as follows:

Asset Category	December 31, 2021	December 31, 2020	Current Minimum, Target and Maximum Allocation Policy		
U.S. equity securities	51%	53%	30%	— 50%	— 70%
International equity securities	20	20	0%	— 20%	— 30%
Debt securities	29	25	15%	— 30%	— 55%
Cash and cash equivalents	—	2	0%	— 0%	— 5%
	100%	100%			

At December 31, 2021 and 2020, $5,406,000 and $25,032,000, respectively, was held in cash as well as debt and equity securities classified within Level 1 of the valuation hierarchy, and $138,000 was held in real estate investments classified within Level 3 of the valuation hierarchy at December 31, 2020. There were no investments within Level 3 of the valuation hierarchy at December 31, 2021. All other plan assets are invested in common collective trusts and valued using the net asset value per share practical expedient and therefore not valued within the valuation hierarchy.

The Company's investment strategy focuses on total return on invested assets (capital appreciation plus dividend and interest income). The primary objective in the investment management of assets is to achieve long-term growth of principal while avoiding excessive risk. Risk is managed through diversification of investments within and among asset classes, as well as by choosing securities that have an established trading and underlying operating history.

The Company makes various assumptions when determining defined benefit plan costs including, but not limited to, the current discount rate and the expected long-term return on plan assets. Discount rates are determined annually and are based on a yield curve that consists of a hypothetical portfolio of high quality corporate bonds with maturities matching the projected benefit cash flows. The Company assumed that plan assets would generate a long-term rate of return of 6.75% in both 2021 and 2020. The Company developed its expected long-term rate of return assumption by evaluating input from investment consultants comparing historical returns for various asset classes with its actual and targeted plan investments. The Company believes that its long-term asset allocation, on average, will approximate the targeted allocation.

The Company's pension plan funding strategy is to make annual contributions in amounts equal to or greater than amounts necessary to meet minimum government funding requirements. The plan's benefit obligations are based on a variety of demographic and economic assumptions, and the pension plan assets' returns are subject to various risks, including market and interest rate risk, making an accurate prediction of the pension plan contribution difficult. The Company's pension plan funding was 92% of the pension plans' accumulated benefit obligation at December 31, 2021, including both the Kirby Pension Plan and the Higman Pension Plan.

The Company sponsors an unfunded defined benefit health care plan that provides limited postretirement medical benefits to employees who met minimum age and service requirements, and to eligible dependents. The plan limits cost increases in the Company's contribution to 4% per year. The plan is contributory, with retiree contributions adjusted annually. The plan eliminated coverage for future retirees as of December 31, 2011. The Company also has an unfunded defined benefit supplemental executive retirement plan ("SERP") that was assumed in an acquisition in 1999. That plan ceased to accrue additional benefits effective January 1, 2000.

The following table presents the change in benefit obligation and plan assets for the Company's defined benefit plans and postretirement benefit plan (in thousands):

	Pension Benefits				Other Postretirement Benefits	
	Pension Plans		SERP		Postretirement Welfare Plan	
	2021	2020	2021	2020	2021	2020
Change in benefit obligation						
Benefit obligation at beginning of year	$ 508,694	$ 442,861	$ 1,174	$ 1,225	$ 629	$ 662
Service cost	7,961	7,671	—	—	—	—
Interest cost	14,239	15,630	31	40	17	22
Actuarial (gain) loss	(20,208)	58,851	(12)	55	104	84
Gross benefits paid	(11,967)	(11,029)	(160)	(146)	(168)	(139)
Settlements	(3,447)	(5,290)	—	—	—	—
Benefit obligation at end of year	$ 495,272	$ 508,694	$ 1,033	$ 1,174	$ 582	$ 629
Accumulated benefit obligation at end of year	$ 469,508	$ 479,999	$ 1,033	$ 1,174	$ 582	$ 629
Weighted-average assumption used to determine benefit obligation at end of year						
Discount rate (a)	3.0% / 3.1%	2.8% / 2.9%	3.0%	2.8%	3.0%	2.8%
Rate of compensation increase	Service-based table	Service-based table	—	—	—	—
Health care cost trend rate						
Initial rate	—	—	—	—	6.25%	6.50%
Ultimate rate	—	—	—	—	5.0%	5.0%
Years to ultimate	—	—	—	—	2027	2025
Change in plan assets						
Fair value of plan assets at beginning of year	$ 395,137	$ 358,197	$ —	$ —	$ —	$ —
Actual return on plan assets	50,619	51,024	—	—	—	—
Employer contribution	479	2,235	160	146	168	139
Gross benefits paid	(11,967)	(11,029)	(160)	(146)	(168)	(139)
Settlements	(3,447)	(5,290)	—	—	—	—
Fair value of plan assets at end of year	$ 430,821	$ 395,137	$ —	$ —	$ —	$ —

(a) The 2021 discount rate was 3.0% for the Kirby Pension Plan and 3.1% for the Higman Pension Plan. The 2020 discount rate was 2.8% for the Kirby Pension Plan and 2.9% for the Higman Pension Plan.

During the year ended December 31, 2021, the decrease in the benefit obligation was primarily due to an increase in the discount rate and actual returns on plan assets performing better than expected. During the year ended December 31, 2020, the increase in the benefit obligation was primarily due to the decrease in the discount rate, partially offset by actual returns on plan assets performing better than expected and an update of the actuarial tables.

At December 31, 2021 and 2020, both the accumulated benefit obligation and the projected benefit obligations of each of the Company's pension plans exceeded the fair value of plan assets.

The following table presents the funded status and amounts recognized in the Company's consolidated balance sheet for the Company's defined benefit plans and postretirement benefit plan (in thousands):

	Pension Benefits				Other Postretirement Benefits	
	Pension Plans		SERP		Postretirement Welfare Plan	
	2021	2020	2021	2020	2021	2020
Funded status at end of year						
Fair value of plan assets	$ 430,821	$ 395,137	$ —	$ —	$ —	$ —
Benefit obligations	(495,272)	(508,694)	(1,033)	(1,174)	(582)	(629)
Funded status and amount recognized at end of year	$ (64,451)	$ (113,557)	$ (1,033)	$ (1,174)	$ (582)	$ (629)
Amounts recognized in the consolidated balance sheets						
Current liability	—	—	(128)	(159)	(49)	(58)
Long-term liability	(64,451)	(113,557)	(905)	(1,015)	(533)	(571)
Amounts recognized in accumulated other comprehensive income						
Net actuarial (gain) loss	$ 32,600	$ 81,376	$ 428	$ 480	$ (2,634)	$ (3,189)
Prior service cost (credit)	—	—	—	—	—	—
Accumulated other compensation income	$ 32,600	$ 81,376	$ 428	$ 480	$ (2,634)	$ (3,189)

The following table presents the expected cash flows for the Company's defined benefit plans and postretirement benefit plan (in thousands):

	Pension Benefits				Other Postretirement Benefits	
	Pension Plans		SERP		Postretirement Welfare Plan	
	2021	2020	2021	2020	2021	2020
Expected employer contributions						
First year	$ 145	$ 2,385	$ —	$ —	$ —	$ —
Expected benefit payments (gross)						
Year one	$ 15,480	$ 13,902	$ 130	$ 162	$ 50	$ 59
Year two	16,678	14,902	104	136	49	49
Year three	17,598	16,123	100	110	48	48
Year four	18,382	17,284	96	106	47	47
Year five	19,127	18,315	91	101	45	46
Next five years	109,845	106,400	381	406	194	202

The components of net periodic benefit cost and other changes in plan assets and benefit obligations recognized in other comprehensive income for the Company's defined benefit plans were as follows (in thousands):

	Pension Benefits					
	Pension Plans			SERP		
	2021	2020	2019	2021	2020	2019
Components of net periodic benefit cost						
Service cost	$ 7,961	$ 7,671	$ 7,364	$ —	$ —	$ —
Interest cost	14,239	15,630	16,493	31	40	52
Expected return on plan assets	(26,244)	(23,790)	(20,956)	—	—	—
Amortization of actuarial loss	4,193	2,399	1,438	40	35	28
Net periodic benefit cost	149	1,910	4,339	71	75	80
Other changes in plan assets and benefit obligations recognized in other comprehensive income						
Current year actuarial (gain) loss	(44,583)	31,616	6,497	(12)	55	73
Recognition of actuarial loss	(4,193)	(2,399)	(1,438)	(40)	(35)	(28)
Total recognized in other comprehensive income	(48,776)	29,217	5,059	(52)	20	45
Total recognized in net periodic benefit cost and other comprehensive income	$ (48,627)	$ 31,127	$ 9,398	$ 19	$ 95	$ 125
Weighted average assumptions used to determine net periodic benefit cost						
Discount rate (a)	2.8% / 2.9%	3.5% / 3.1%	4.4%	2.8%	3.5%	4.4%
Expected long-term rate of return on plan assets	6.75%	6.75%	7.0%	—	—	—
Rate of compensation increase	Service-based table	Service-based table	Service-based table	—	—	—

(a) The 2021 discount rate for benefit cost is 2.8% for the Kirby Pension Plan and 2.9% for the Higman Pension Plan. The 2020 discount rate for benefit cost is 3.5% for the Kirby Pension Plan and 3.1% for the Higman Pension Plan.

The components of net periodic benefit cost and other changes in benefit obligations recognized in other comprehensive income for the Company's postretirement benefit plan were as follows (in thousands):

	Other Postretirement Benefits		
	Postretirement Welfare Plan		
	2021	2020	2019
Components of net periodic benefit cost			
Interest cost	$ 17	$ 22	$ 31
Amortization of actuarial gain	(451)	(522)	(540)
Net periodic benefit cost	(434)	(500)	(509)
Other changes in benefit obligations recognized in other comprehensive income			
Current year actuarial loss (gain)	104	84	(22)
Recognition of actuarial gain	451	522	540
Total recognized in other comprehensive income	555	606	518
Total recognized in net periodic benefit cost and other comprehensive income	$ 121	$ 106	$ 9
Weighted average assumptions used to determine net periodic benefit cost			
Discount rate	2.8%	3.5%	4.4%
Health care cost trend rate:			
Initial rate	6.50%	6.75%	7.0%
Ultimate rate	5.0%	5.0%	5.0%
Years to ultimate	2025	2025	2025

The Company also contributes to a multiemployer pension plan pursuant to a collective bargaining agreement which covers certain vessel crew members of its coastal operations and expires on April 30, 2022. The Company began participation in the Seafarers Pension Trust ("SPT") with the Penn Maritime, Inc. acquisition on December 14, 2012.

Contributions to the SPT are made currently based on a per day worked basis and charged to expense as incurred and included in costs of sales and operating expenses in the consolidated statement of earnings. During 2021 and 2020, the Company made contributions of $541,000 and $617,000, respectively, to the SPT. The Company's contributions to the SPT exceeded 5% of total contributions to the SPT in 2020. Total contributions for 2021 are not yet available. The Company did not pay any material surcharges in 2021 and 2020.

The federal identification number of the SPT is 13-6100329 and the Certified Zone Status is Green at December 31, 2020. The Company's future minimum contribution requirements under the SPT are unavailable because actuarial reports for the 2021 plan year are not yet complete and such contributions are subject to negotiations between the employers and the unions. The SPT was not in endangered or critical status for the 2020 plan year, the latest period for which a report is available, as the funded status was in excess of 100%. Based on the most recent communication from the SPT, there would be no withdrawal liability if the Company chose to withdraw from the SPT although the Company currently has no intention of terminating its participation in the SPT.

The Company also contributes to a multiemployer pension plan pursuant to a collective bargaining agreement which covers certain employees of its distribution and services segment in New Jersey and expires on October 8, 2023. The Company began participation in the Central Pension Fund of the International Union of Operating Engineers and Participating Employers ("CPF") with the S&S acquisition on September 13, 2017.

Contributions to the CPF are made currently based on a fixed hourly rate for each hour worked or paid basis (in some cases contributions are made as a percentage of gross pay) and charged to expense as incurred and included in costs of sales and operating expenses in the consolidated statement of earnings. During 2021 and 2020, the Company made contributions of $693,000 and $691,000, respectively, to the CPF. Total contributions for the 2021 plan year are not yet available. The Company did not pay any material surcharges in 2021 and 2020.

The federal identification number of the CPF is 36-6052390 and the Certified Zone Status is Green at January 31, 2021. The Company's future minimum contribution requirements under the CPF are unavailable because actuarial reports for the 2021 plan year, which ended January 31, 2022, are not yet complete and such contributions are subject to negotiations between the employers and the unions. The CPF was not in endangered or critical status for the 2020 plan year, ending January 31, 2021, the latest period for which a report is available, as the funded status was 98%. There would be no withdrawal liability if the Company chose to withdraw from the CPF although the Company currently has no intention of terminating its participation in the CPF.

In addition to the defined benefit plans, the Company sponsors various defined contribution plans for substantially all employees. The aggregate contributions to the plans were $25,853,000, $25,514,000, and $25,409,000 in 2021, 2020, and 2019, respectively.

(13) Other Comprehensive Income (Loss)

The Company's changes in other comprehensive income (loss) were as follows (in thousands):

	Year Ended December 31,								
	2021			2020			2019		
	Gross Amount	Income Tax Provision	Net Amount	Gross Amount	Income Tax (Provision) Benefit	Net Amount	Gross Amount	Income Tax (Provision) Benefit	Net Amount
Pension and postretirement benefits (a):									
Amortization of net actuarial loss	$ 3,782	$ (952)	$ 2,830	$ 1,912	$ (483)	$ 1,429	$ 926	$ (236)	$ 690
Actuarial gains (losses)	44,491	(10,774)	33,717	(31,755)	7,006	(24,749)	(6,548)	1,655	(4,893)
Foreign currency translation adjustments	(1,061)	—	(1,061)	(333)	—	(333)	(85)	—	(85)
Total	$ 47,212	$ (11,726)	$ 35,486	$ (30,176)	$ 6,523	$ (23,653)	$ (5,707)	$ 1,419	$ (4,288)

(a) Actuarial gains (losses) are amortized into other income (expense). (See Note 12 – Retirement Plans)

(14) Contingencies and Commitments

In 2009, the Company was named by the Environmental Protection Agency (the "EPA") as a Potentially Responsible Party ("PRP") in addition to a group of approximately 250 named PRPs under the Comprehensive Environmental Response, Compensation and Liability Act of 1981 ("CERCLA") with respect to a Superfund site, the Portland Harbor Superfund site ("Portland Harbor") in Portland, Oregon. The site was declared a Superfund site in December 2000 as a result of historical heavily industrialized use due to manufacturing, shipbuilding, petroleum storage and distribution, metals salvaging, and electrical power generation activities which led to contamination of Portland Harbor, an urban and industrial reach of the lower Willamette River located immediately downstream of downtown Portland. The Company's involvement arises from four spills at the site after it was declared a Superfund site, as a result of predecessor entities' actions in the area. To date, there is no information suggesting the extent of the costs or damages to be claimed from the 250 notified PRPs. Based on the nature of the involvement at the Portland Harbor site, the Company believes its potential contribution is de minimis; however, to date neither the EPA nor the named PRPs have performed an allocation of potential liability in connection with the site nor have they provided costs and expenses in connection with the site.

On February 20, 2015, the Company was served as a defendant in a Complaint originally filed on August 14, 2014, in the U.S. District Court of the Southern District of Texas - Houston Division, *USOR Site PRP Group vs. A&M Contractors, USES, Inc. et al.* This is a civil action pursuant to the provisions of CERCLA and the Texas Solid Waste Disposal Act for recovery of past and future response costs incurred and to be incurred by the USOR Site PRP Group for response activities at the U.S. Oil Recovery Superfund Site. The property was a former sewage treatment plant owned by defendant City of Pasadena, Texas from approximately 1945 until it was acquired by U.S. Oil Recovery in January 2009. Throughout its operating life, the U.S. Oil Recovery facility portion of the USOR Site received and performed wastewater pretreatment of municipal and Industrial Class I and Class II wastewater, characteristically hazardous waste, used oil and oily sludges, and municipal solid waste. Associated operations were conducted at the MCC Recycling facility portion of the USOR Site after it was acquired by U.S. Oil Recovery from the City of Pasadena in January 2009. The EPA and the PRP Group entered into an Administrative Settlement Agreement and Order for Remedial Investigation Study ("Study") in May 2015. The Study has not been completed by EPA to date. The Company joined as a member of the PRP Group companies at its pro-rata allocated share.

On October 13, 2016, the Company, as a successor to Hollywood Marine, Inc. ("Hollywood Marine"), was issued a General Notice under CERCLA by the EPA in which it was named as a PRP for liabilities associated with the SBA Shipyard Site located near Jennings, Louisiana (the "Site"). The Site was added to the EPA's National Priorities List of sites under CERCLA in September 2016. SBA used the facility for construction, repair, retrofitting, sandblasting, and cleaning and painting of barges beginning in 1965. Three barge slips and a dry dock are located off the Mermentau River. The slips were used to dock barges during cleaning or repair. In 2001, a group of PRPs that had been former customers of the SBA Shipyard facility formed an organization called the SSIC Remediation, LLC (hereinafter, "the PRP Group Companies") to address removal actions at the Site. In 2002, EPA approved an Interim Measures/Removal Action of Hazardous/Principal Threat Wastes at SBA Shipyards, Inc. (pursuant to RCRA Section 3008(h)) that was proposed by SBA Shipyard and the PRP Group Companies. Interim removal activities were conducted from March 2001 through January 2005 under an EPA 2002 Order and Agreement. In September 2012, the Louisiana Department of Environmental Quality requested EPA address the Site under CERCLA authority. The Company, as a successor to Hollywood Marine, joined the PRP Group Companies. The PRP Group Companies have submitted a draft Study work plan to EPA for their review and comment. Higman was named as a PRP in connection with its activities at the Site. Higman is not a participant in the PRP Group Companies.

With respect to the above sites, the Company has accrued a liability, if applicable, for its estimated potential liability for its portion of the EPA's past costs claim based on information developed to date including various factors such as the Company's liability in proportion to other PRPs and the extent to which such costs are recoverable from third parties.

On May 10, 2019, two tank barges and a towboat, the M/V Voyager, owned and operated by Kirby Inland Marine, LP ("Kirby Inland Marine"), a wholly owned subsidiary of the Company, were struck by the LPG tanker, the Genesis River, in the Houston Ship Channel. The bow of the Genesis River penetrated the Kirby 30015T and capsized the MMI 3014. The collision penetrated the hull of the Kirby 30015T causing its cargo, reformate, to be discharged into the water. The United States Coast Guard ("USCG") and the National Transportation Safety Board ("NTSB") designated the owner and pilot of the Genesis River as well as the subsidiary of the Company as parties of interest in their investigation into the cause of the incident. On June 19, 2019, the Company filed a limitation action in the U.S. District Court of the Southern District of Texas - Galveston Division seeking limitation of liability and asserting that the Genesis River and her owner/manager are at fault for damages including removal costs and claims under the Oil Pollution Act of 1990 and maritime law. Multiple claimants have filed claims in the limitation seeking damages under the Oil Pollution Act of 1990. The court bifurcated the matter into two trials, the first to determine liability amongst the parties and the second to assess damages. The Company entered into a settlement agreement resolving claims of natural resource damage arising out of the spill. Under the agreement, the Company agreed to pay state and federal natural resource trustees $2,102,000. The liability trial was conducted during the week of February 2, 2021. The Court issued its decision on July 8, 2021, finding that the Genesis River was solely at fault and no liability on the part of Kirby Inland Marine. No appeal was filed by the Genesis River. The Company and its insurance carriers collected the $20,206,000 judgment from the Genesis River and its interests.

On October 13, 2016, the tug Nathan E. Stewart and barge DBL 55, an ATB owned and operated by Kirby Offshore Marine, LLC, a wholly owned subsidiary of the Company, ran aground at the entrance to Seaforth Channel on Atholone Island, British Columbia. The grounding resulted in a breach of a portion of the Nathan E. Stewart's fuel tanks causing a discharge of diesel fuel into the water. The USCG and the NTSB designated the Company as a party of interest in their investigation as to the cause of the incident. The Canadian authorities including Transport Canada and the Canadian Transportation Safety Board investigated the cause of the incident. On October 10, 2018, the Heiltsuk First Nation filed a civil action in the British Columbia Supreme Court against a subsidiary of the Company, the master and pilot of the tug, the vessels and the Canadian government seeking unquantified damages as a result of the incident. On May 1, 2019, the Company filed a limitation action in the Federal Court of Canada seeking limitation of liability relating to the incident as provided under admiralty law. The Heiltsuk First Nation's civil claim has been consolidated into the Federal Court limitation action as of July 26, 2019 and it is expected that the Federal Court of Canada will decide all claims against the Company. The Company is unable to estimate the potential exposure in the civil proceeding. The Company has various insurance policies covering liabilities including pollution, property, marine and general liability and believes that it has satisfactory insurance coverage for the cost of cleanup and salvage operations as well as other potential liabilities arising from the incident. The Company believes its accrual of such estimated liability is adequate for the incident and does not expect the incident to have a material adverse effect on its business or financial condition.

On March 22, 2014, two tank barges and a towboat, the M/V Miss Susan, owned by Kirby Inland Marine, were involved in a collision with the M/S Summer Wind on the Houston Ship Channel near Texas City, Texas. The lead tank barge was damaged in the collision resulting in a discharge of intermediate fuel oil from one of its cargo tanks. While all legal action to date involving the Company has been resolved, the Company is participating in the natural resource damage assessment and restoration process with federal and state government natural resource trustees. In December 2021, the Company agreed to pay $15,300,000 in damages resulting from this incident, and a proposed consent decree. On January 20, 2022, the federal court approved the consent decree. The matter concluded following the Company's payment of damages to federal and state trustees in accordance with the terms of the consent decree.

In addition, the Company is involved in various legal and other proceedings which are incidental to the conduct of its business, none of which in the opinion of management will have a material effect on the Company's financial condition, results of operations or cash flows. Management believes its accrual of such estimated liability is adequate and believes that it has adequate insurance coverage or has meritorious defenses for these other claims and contingencies.

Certain Significant Risks and Uncertainties. The preparation of financial statements in conformity with United States generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates. However, in the opinion of management, the amounts would be immaterial.

The customer base of the marine transportation segment includes major industrial petrochemical and chemical manufacturers, refining companies and agricultural chemical manufacturers operating in the United States. During 2021, approximately 65% of marine transportation's inland revenues were from movements of such products under term contracts, typically ranging from one year to three years, some with renewal options. During 2021, approximately 80% of the marine transportation's coastal revenues were under term contracts. While the manufacturing and refining companies have generally been customers of the Company for numerous years (some as long as 40 years) and management anticipates a continuing relationship, there is no assurance that any individual contract will be renewed. No single customer of the marine transportation segment accounted for 10% or more of the Company's revenues in 2021, 2020, or 2019.

Major customers of the distribution and services segment include oilfield service companies, oil and gas operators and producers, inland and offshore barge operators, offshore fishing companies, on-highway transportation companies, construction companies, the United States government, and power generation, nuclear and industrial companies.

The results of the distribution and services segment are largely tied to the industries it serves and, therefore, can be influenced by the cycles of such industries. No single customer of the distribution and services segment accounted for 10% or more of the Company's revenues in 2021, 2020, or 2019.

United Holdings LLC ("United") has maintained continuous exclusive distribution rights for MTU and Allison Transmission products since 1946. United is one of MTU's top five distributors of MTU off-highway engines in North America with exclusive distribution rights in Oklahoma, Arkansas, Louisiana and Mississippi. In addition, as a distributor of Allison Transmission products, United has distribution rights in Oklahoma, Arkansas and Louisiana. United is also the distributor for parts service and warranty on Daimler Truck North America ("DTNA") engines and related equipment in Oklahoma, Arkansas and Louisiana. United, though certain of its subsidiaries, is also a dealer of Thermo King refrigeration systems for trucks, railroad cars, and other land transportation markets in Texas and Colorado.

S&S is also one of MTU's top five distributors for off-highway engines with exclusive distribution rights in multiple states. S&S also has authorized exclusive distribution rights for Allison Transmission, Detroit Diesel, Deutz, DTNA, EMD, Rolls Royce Power and Volvo Penta diesel engines in multiple key growth states, primarily through the Central, South and Eastern parts of the United States and strategically located near major oil and gas fields, marine waterways and on-highway transportation routes. In addition, S&S has long-term relationships with numerous smaller suppliers including Donaldson, Freightliner, Generac and John Deere.

Kirby Engine Systems LLC, through Marine Systems, Inc. and Engine Systems, Inc. ("Engine Systems"), operates as an authorized EMD distributor throughout the United States. Engine Systems is also the authorized EMD distributor for nuclear power applications worldwide. The relationship with EMD has been maintained for 56 years. The segment also operates factory-authorized full service marine distributorship/dealerships for Cummins, Detroit Diesel and John Deere high-speed diesel engines and Falk, Lufkin and Twin Disc marine gears, as well as an authorized marine dealer for Caterpillar diesel engine in multiple states.

Physical impacts of climate change could have a material adverse effect on the Company's costs and operations. There has been public discussion that climate change may be associated with rising sea levels as well as extreme weather conditions such as more intense hurricanes, thunderstorms, tornadoes, drought, and snow or ice storms. Weather can be a major factor in the day-to-day operations of the marine transportation segment. Adverse weather conditions, such as high or low water, tropical storms, hurricanes, tsunamis, fog and ice, can impair the operating efficiencies of the marine fleet. Shipments of products can be delayed or postponed by weather conditions, which are totally beyond the control of the Company. Adverse water conditions are also factors which impair the efficiency of the fleet and can result in delays, diversions and limitations on night passages, and dictate horsepower requirements and size of tows. Additionally, much of the inland waterway system is controlled by a series of locks and dams designed to provide flood control, maintain pool levels of water in certain areas of the country and facilitate navigation on the inland river system. Maintenance and operation of the navigable inland waterway infrastructure is a government function handled by the Army Corps of Engineers with costs shared by industry. Significant changes in governmental policies or appropriations with respect to maintenance and operation of the infrastructure could adversely affect the Company. The Company's distribution and services segment is also subject to tropical storms and hurricanes impacting its coastal locations and those of its customers as well as tornados impacting its Oklahoma facilities. The risk of flooding as a result of hurricanes and tropical storms as well as other weather events may impede travel via roadways, suspend service work, and impact deliveries and the Company's ability to fulfill orders or provide services in the distribution and services segment.

The Company's marine transportation segment is subject to regulation by the USCG, federal laws, state laws, the laws of other countries when operating in their waters, and certain international conventions, as well as numerous environmental regulations. The Company believes that additional safety, environmental and occupational health regulations may be imposed on the marine industry. There can be no assurance that any such new regulations or requirements, or any discharge of pollutants by the Company, will not have an adverse effect on the Company.

The Company's marine transportation segment competes principally in markets subject to the Jones Act, a federal cabotage law that restricts domestic marine transportation in the United States to vessels built and registered in the United States, and manned, owned and operated by United States citizens. The Jones Act cabotage provisions occasionally come under attack by interests seeking to facilitate foreign flagged competition in trades reserved for domestic companies and vessels under the Jones Act. The Company believes that continued efforts will be made to modify or eliminate the cabotage provisions of the Jones Act. If such efforts are successful, certain elements could have an adverse effect on the Company. However, the Company believes that it is unlikely that the current cabotage provisions of the Jones Act would be eliminated or significantly modified in a way that has a material adverse impact on the Company in the foreseeable future.

The Company has issued guaranties or obtained standby letters of credit and performance bonds supporting performance by the Company and its subsidiaries of contractual or contingent legal obligations of the Company and its subsidiaries incurred in the ordinary course of business. The aggregate notional value of these instruments is $19,357,000 at December 31, 2021, including $12,055,000 in letters of credit and $7,302,000 in performance bonds. All of these instruments have an expiration date within two years. The Company does not believe demand for payment under these instruments is likely and expects no material cash outlays to occur in connection with these instruments.

(15) Related Party Transactions

David W. Grzebinski, President and Chief Executive Officer of the Company, is a member of the board of directors for ABS, a not-for-profit that provides global classification services to the marine, offshore and gas industries. The Company paid ABS $1,620,000 in 2021, $2,377,000 in 2020, and $1,774,000 in 2019 to perform audits and surveys of the Company's vessels in the ordinary course of business.

In November 2020, Mr. Grzebinski became a member of the board of directors of UK Protection & Indemnity Association ("UK P&I"), a mutual marine protection and indemnity organization that provides protection and indemnity insurance for third party liabilities and expenses arising from vessel operations. The Company's marine fleet is insured on a pro rata share basis through UK P&I and Standard Mutual. The Company paid $3,215,000 during 2021 in premiums for coverage in the 2021-2022 policy period and $3,000,000 during 2020, in premiums for coverage in the 2020-2021 policy period in the ordinary course of business.

In January 2019, Amy D. Husted, Vice President, General Counsel and Secretary of the Company, became a member of the board of directors of Signal Mutual Indemnity Association Ltd ("Signal"), a group self-insurance not-for-profit organization authorized by the U.S. Department of Labor as a longshore worker's compensation insurance provider. The Company has been a member of Signal since it was established in 1986. The Company paid Signal $551,000 in 2021, $667,000 in 2020 and $1,391,000 in 2019 in the ordinary course of business.

The husband of Ms. Husted is a partner in the law firm of Clark Hill PLC. The Company paid the law firm $2,900,000 in 2021, $1,598,000 in 2020, and $1,278,000 in 2019 for legal services in connection with matters in the ordinary course of business.

PART IV

Item 15. *Exhibits and Financial Statement Schedules*

1. *Financial Statements*

Included in Part III of this report on pages 47 to 79:

Report of Independent Registered Public Accounting Firm (KPMG LLP, Houston, TX, PCAOB ID 185).
Report of Independent Registered Public Accounting Firm.
Consolidated Balance Sheets, December 31, 2021 and 2020.
Consolidated Statements of Earnings, for the years ended December 31, 2021, 2020, and 2019.
Consolidated Statements of Comprehensive Income, for the years ended December 31, 2021, 2020, and 2019.
Consolidated Statements of Cash Flows, for the years ended December 31, 2021, 2020, and 2019.
Consolidated Statements of Stockholders' Equity, for the years ended December 31, 2021, 2020, and 2019.
Notes to Consolidated Financial Statements, for the years ended December 31, 2021, 2020, and 2019.

2. *Financial Statement Schedules*

All schedules are omitted as the required information is inapplicable or the information is presented in the consolidated financial statements or related notes.

3. *Exhibits*

EXHIBIT INDEX

Exhibit Number		Description of Exhibit
3.1	—	Restated Articles of Incorporation of the Company with all amendments to date (incorporated by reference to Exhibit 3.1 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014).
3.2	—	Bylaws of the Company, as amended to March 17, 2020 (incorporated by reference to Exhibit 3.2 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014).
3.3	—	Amendment to Bylaws of Kirby Corporation dated March 18, 2020 (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed with the Commission on March 19, 2020).
4.1	—	See Exhibits 3.1, 3.2, and 3.3 hereof for provisions of our Restated Articles of Incorporation of the Company with all amendments to date and the Bylaws of the Company, as amended to date (incorporated by reference to Exhibit 3.1 and 3.2, respectively, to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014 and Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed with the Commission on March 19, 2020).
4.2	—	Long-term debt instruments are omitted pursuant to Item 601(b)(4) of Regulation S-K. The Registrant will furnish copies of such instruments to the Commission upon request.
10.1	—	Note Purchase Agreement dated February 3, 2022 (incorporated by reference to Exhibit 10.1 to the Registrant's Form 8-K filed with the Commission on February 8, 2022
10.2	—	Amended and Restated Credit Agreement dated as of March 27, 2019 among Kirby Corporation, JPMorgan Chase Bank, N.A., as Administrative Agent, and the banks named therein (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed with the Commission on April 2, 2019).
10.3†	—	Deferred Compensation Plan for Key Employees (incorporated by reference to Exhibit 10.7 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2005).
10.4†*	—	Amendment to the Deferred Compensation Plan for Key Employees dated December 31, 2008.
10.5†*	—	Amendment to the Deferred Compensation Plan for Key Employees dated April 24, 2018.
10.6†*	—	Amendment to the Deferred Compensation Plan for Key Employees dated February 9, 2022.
10.7†	—	Incentive and Retention Award Agreement of David W. Grzebinski dated February 25, 2021 (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed with the Commission on February 26, 2021).
10.8†	—	Incentive and Retention Award Agreement of Christian G. O'Neil dated February 25, 2021 (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K filed with the Commission on February 26, 2021).
10.9†	—	Incentive and Retention Award Agreement of Joseph H. Reniers dated February 25, 2021 (incorporated by reference to Exhibit 10.3 to the Registrant's Current Report on Form 8-K filed with the Commission on February 26, 2021).
10.10†	—	Annual Incentive Plan Guidelines for 2021 (incorporated by reference to Exhibit 10.4 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2020).
10.11†*	—	Annual Incentive Plan Guidelines for 2022.
10.12†	—	2005 Stock and Incentive Plan (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed with the Commission on April 29, 2021).

Exhibit Number		Description of Exhibit
10.13†	—	2000 Nonemployee Director Stock Plan (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K filed with the Commission on April 29, 2021).
10.14	—	Nonemployee Director Compensation Program (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2018).
21.1*	—	Consolidated Subsidiaries of the Registrant.
23.1*	—	Consent of Independent Registered Public Accounting Firm.
31.1*	—	Certification of Chief Executive Officer Pursuant to Rule 13a-14(a).
31.2*	—	Certification of Chief Financial Officer Pursuant to Rule 13a-14(a).
32*	—	Certification Pursuant to 18 U.S.C. Section 1350 (As adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002).
101.INS*	—	Inline XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document
101.SCH*	—	Inline XBRL Taxonomy Extension Schema Document
101.CAL*	—	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	—	Inline XBRL Taxonomy Extension Definitions Linkbase Document
101.LAB*	—	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	—	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104*	—	Cover Page Interactive Data File (embedded within the Inline XBRL document)

* Filed herewith.
† Management contract, compensatory plan or arrangement.

Item 16. *Form 10-K Summary*

Not applicable

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

KIRBY CORPORATION
(REGISTRANT)

By: /s/ RAJ KUMAR
Raj Kumar
Executive Vice President and
Chief Financial Officer

Dated: February 18, 2022

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Capacity	Date
/s/ JOSEPH H. PYNE **Joseph H. Pyne**	Chairman of the Board and Director	February 18, 2022
/s/ DAVID W. GRZEBINSKI **David W. Grzebinski**	President, Chief Executive Officer, and Director (Principal Executive Officer)	February 18, 2022
/s/ RAJ KUMAR **Raj Kumar**	Executive Vice President and Chief Financial Officer (Principal Financial Officer)	February 18, 2022
/s/ RONALD A. DRAGG **Ronald A. Dragg**	Vice President, Controller and Assistant Secretary (Principal Accounting Officer)	February 18, 2022
/s/ ANNE-MARIE N. AINSWORTH **Anne-Marie N. Ainsworth**	Director	February 18, 2022
/s/ RICHARD J. ALARIO **Richard J. Alario**	Director	February 18, 2022
/s/ TANYA S. BEDER **Tanya S. Beder**	Director	February 18, 2022
/s/ BARRY E. DAVIS **Barry E. Davis**	Director	February 18, 2022
/s/ C. SEAN DAY **C. Sean Day**	Director	February 18, 2022
/s/ RICHARD R. STEWART **Richard R. Stewart**	Director	February 18, 2022
/s/ WILLIAM M. WATERMAN **William M. Waterman**	Director	February 18, 2022
/s/ SHAWN D. WILLIAMS **Shawn D. Williams**	Director	February 18, 2022

**AMENDMENT TO THE KIRBY
CORPORATION
DEFERRED COMPENSATION PLAN FOR KEY EMPLOYEES**

THIS AGREEMENT by Kirby Corporation (the "Company"),

<u>W I T N E S S E T H:</u>

WHEREAS, the Company maintains a nonqualified plan entitled "Kirby Corporation Deferred Compensation Plan for Key Employees" (the "Plan");

WHEREAS, the Company retained the right in Section Eleven of the Plan to amend the Plan at any time;

WHEREAS, it has been determined that the Plan must be amended with respect to amounts deferred and vested on or after January 1, 2005 to comply with the provisions of the American Jobs Creation Act of 2004 and new section 409A of the Internal Revenue Code of 1986, as amended (collectively, "Section 409A"),

WHEREAS, it has been determined that the all amounts deferred under the Plan after January 1, 2005, shall comply with Section 409A,

NOW, THEREFORE, the Plan is hereby amended with respect to amounts deferred under the Plan on or after January 1, 2005, but excluding amounts deferred prior to January 1, 2005, as follows:

Section Eight of the Plan is hereby amended and restated to provide as follows:

<u>SECTION EIGHT</u> <u>PAYMENT</u>

Except as provided below, the Participant's Vested Accrued Benefit shall be payable in a lump sum payment within 90 days after the earliest to occur of the date of the Participant's (i) death, (ii) termination of employment as a result of Disability, or (iii) termination of employment with the Employer.

An Employee shall not have terminated employment for these purposes unless the Employee has incurred a separation from service with the Employer and all affiliates (as determined for purposes of Code Section 409A and the regulations and guidance issued thereunder).

Notwithstanding the foregoing, to the extent required under Code Section 409A, a distribution to a Participant who is a "specified employee" may not be made prior to six months following such Participant's termination of employment. The determination of who is a specified employee will be made in accordance with Code Section 409A and Code Section 416(i) (without regard to paragraph (5) thereof) and the applicable regulations and other guidance of general applicability issued thereunder.

IN WITNESS WHEREOF, the Company has caused this Agreement to be executed this **31ST** day of December, 2008, so as to be effective as of January 1, 2005.

KIRBY CORPORATION

By:	/s/ Jack Sims
Title:	

AMENDMENT TO THE KIRBY CORPORATION DEFERRED COMPENSATION PLAN FOR KEY EMPLOYEES

THIS AGREEMENT by Kirby Corporation (the "Company"),

W I T N E S S E T H:

WHEREAS, the Company maintains a nonqualified plan entitled " Kirby Corporation Deferred Compensation Plan for Key Employees" (the "Plan");

WHEREAS, the Company retained the right in Section Eleven of the Plan to amend the Plan at any time;

WHEREAS, the Company desires to amend the Plan;

NOW, THEREFORE, Section Six (b) of the Plan is hereby amended in its entirety to read as follows:

(b) Earnings Credits to Accounts. Except as provided herein, as of each Valuation Date, there shall be two adjustments, (i) each Participant's Account shall be credited with earnings equal to the product of (x) the Value of such Participant's Account as of the preceding Valuation Date (less any distributions from such Participant's Account since such preceding Valuation Date), and (y) the Profit Sharing Quarterly Rate for the Quarter in which such Valuation Date occurs, and (ii) then, any Employer Contributions to be credited to such Participant's Account as of such Valuation Date shall be credited to such Account, and shall commence to earn the Profit Sharing Quarterly Rate as of the first day of the following Quarter. For all purposes hereof, the Profit Sharing Quarterly Rate for the Quarter of reference shall mean the quotient, expressed as a percentage rounded to two decimal places, of (i) the earnings (or losses) of the Profit Sharing Plan for the Quarter of reference, divided by (ii) the excess of (x) the aggregate amount allocated to Participant Accounts under the Profit Sharing Plan as of the end of the Quarter preceding the Quarter of reference, over (y) the aggregate amount distributed from the Participant Accounts during the Quarter of reference, all as reasonably determined by the Administrator in its sole discretion.

Notwithstanding the foregoing, if a Participant incurs a termination of employment and may not take a distribution due to the six-month delay required under Section 409A of the Code and Section Eight of the Plan, the following rules shall apply:

(i) If the Participant's final Valuation Date:

(A) occurs at the end of a Quarter, the rules of clause (i) of the first paragraph of Section Six(b) shall apply, or

(B) does not occur at the end of a Quarter, the Administrator shall reasonably determine in its sole discretion a pro-rated Profit Sharing Quarterly Rate for the period commencing as of the end of the Quarter preceding the final Valuation Date and ending on the final Valuation Date using the principles outlined in the first paragraph of this Section Six(b); and

(ii) then, during the period of the delayed payment, the Employer Contribution to be credited to such Participant's Account shall be the aggregate of the following:

(A) for the period commencing on the Participant's date of termination of employment and ending on the first business date of the month following such date of termination of employment, an amount equal to the product of (x): the Account Balance as of the Participant's date of termination of employment and (y) the prime rate as published in the Wall Street Journal (and in the absence of such paper, at Kirby's primary lending bank) as of such first business date multiplied by a fraction, the numerator of which is the number of days in such period and the denominator of which is 365, and

(B) for each month thereafter, an amount equal to the product of (x): the Account Balance as of the last day of the month immediately preceding the month in reference and (y) the prime rate as published in the Wall Street Journal (and in the absence of such paper, at Kirby's primary lending bank) as of the first business date of the month in reference divided by 12.

IN WITNESS WHEREOF, the Company has caused this Agreement to be executed this 24th day of April, 2018, to be effective for Participants whose employment terminates on or after April 24, 2018.

KIRBY CORPORATION

By: /s/ Kim B. Clarke
Title: Vice President Human Resources

AMENDMENT TO THE KIRBY CORPORATION DEFERRED COMPENSATION PLAN FOR KEY EMPLOYEES

THIS AMENDMENT is made by Kirby Corporation (the "Company"),

W I T N E S S ET H:

WHEREAS, the Company maintains the nonqualified deferred compensation plan entitled "Kirby Corporation Deferred Compensation Plan for Key Employees" (the "Plan");

WHEREAS, the Company retained the right in Section Eleven of the Plan to amend the Plan at any time; and

WHEREAS, the Company desires to amend the Plan;

NOW, THEREFORE, the Plan is hereby amended as follows:

1. Effective January 1, 2022, the second sentence of Section Six (b) of the Plan is hereby amended and restated in its entirety to read as follows:

> For all purposes hereof, the Profit Sharing Quarterly Rate for the Quarter of reference shall mean the rate of earnings (or losses), expressed as a percentage rounded to two decimal places, achieved by the Kirby Pension Plan for the Quarter of reference, as reasonably determined by the Administrator in its sole discretion.

2. Effective April 1, 2022, the definition of " Valuation Date" set forth in Section One of the Plan is hereby amended and restated in its entirety to read as follows:

> "Valuation Date" shall mean the last day of each Quarter, any other day or days selected by the Committee on which the Plan (or any portion thereof) is to be valued.

3. Effective April 1, 2022, Section Six (b) of the Plan is hereby amended and restated in its entirety to read as follows:

> (b) Earnings Credits to Accounts. Each Participant's Account shall be credited, as of each Valuation Date, with earnings (or losses) equal to the amount which is deemed to be earned on his Account established to enable the Sponsor to determine its obligations to the Participant under the Plan. Each Valuation Date the Committee or its delegate will determine the amount of earnings (or losses) to be allocated to a Participant's Account and will credit (or debit) that amount to the Participant's Account. For the purpose of determining the earnings (or losses) to be credited (or debited) to the Participant's Account, the Committee shall assume that the Participant's Account is invested in investment units or shares of the investment options made available by the Committee in the proportions selected by the Participant in accordance with procedures established by the Committee. The

amount accrued by the Committee under this Section Six(b) as additional deferred compensation shall be a part of the Sponsor's obligation to the Participant under the Plan and payment of such amount shall be a general obligation of the Sponsor. The determination of earnings based on the income and appreciation of the Participant's Account shall in no way affect the ability of the general creditors of the Sponsor to reach the assets of the Sponsor or any rabbi trust in the event of the insolvency or bankruptcy of the Sponsor or place the Participants in a secured position ahead of the general creditors of the Sponsor. Although a Participant's investment selections made in accordance with the terms of the Plan and such procedures as may be established by the Committee shall be relevant for purposes of determining the Sponsor's obligation to the Participant under the Plan, there is no requirement that any assets of the Sponsor (including those held in any rabbi trust) shall be invested in accordance with the Participant' s investment selections.

IN WITNESS WHEREOF, the Company has caused this Amendment to be executed this [9th] day of [February], 2022.

KIRBY CORPORATION

By: /s/ Kim B. Clarke
Title: 2-9-22, Vice President Chief Human Resources Officer

EXHIBIT 10.11

ANNUAL INCENTIVE PLAN

2022 Plan Year

Guidelines

KIRBY CORPORATION

January 2022

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Introduction

Kirby Corporation (together with its subsidiaries, "Kirby" or the "Company") established the 2022 Annual Incentive Plan (the "Plan") to focus employees of the Company on identifying and achieving business strategies that lead to increased stockholder value. The Plan is also intended to reward superior performance by employees and their contribution to achieving Kirby's objectives.

Certain aspects of this Plan are complex. Although these Guidelines establish rules for Plan operation, those rules may not work in all circumstances. Therefore, the Compensation Committee of the Kirby Board of Directors has discretion to interpret these Guidelines to assure the awards are consistent with the Plan's purposes and the Company's interests. All decisions by the Compensation Committee shall be final and binding.

Unless resolutions of the Compensation Committee expressly provide otherwise, awards granted under the Plan shall constitute performance awards granted under Article IV of the Kirby Corporation 2005 Stock and Incentive Plan and are subject to the terms and provisions of such Plan that apply to performance awards.

The Plan may be amended, modified or terminated at any time without prior notice by written authorization of the Compensation Committee or the Board of Directors of Kirby Corporation.

The 2022 Annual Incentive Plan

Each award granted under the Plan is an award for Company performance or a combination of Company and Business Group performance. Awards are generally based on achieving the Company Performance Goal as well as additional Company, Business Group and individual performance measures and objectives. Once the Company Performance Goal is reached, participants in the Plan become eligible for an incentive bonus payment.

All amounts paid to participants pursuant to the Plan shall be subject to any policy relating to the recovery of erroneously awarded incentive compensation that may hereafter be adopted by the Company to comply with Securities and Exchange Commission rules or New York Stock Exchange listing standards.

Plan Objectives

The key objectives of the Plan are:

- Provide an annual incentive plan that drives performance toward objectives critical to creating stockholder value.
- Offer competitive cash compensation opportunities to key Kirby employees.
- Reward outstanding achievement by employees who directly affect Kirby's results.
- Assist Kirby in attracting and retaining high quality employees.
- Reflect both quantitative and qualitative performance factors in actual bonus payouts.
- Ensure that incentive payments made by the Company are fully deductible by the Company.

Business Groups

The following Business Groups are designated for purposes of the Plan:

Kirby Corporate Services ("KCS")	ThermoKing ("TK/CON")
Kirby Inland Marine, LP ("KIM")[1]	Kirby Engine Systems, Inc. ("KES")
Kirby Offshore Marine, LLC ("KOM")	Atlantic and Florida Detroit Diesel Allison ("DDAs")
S&S and United (S&S UE)	KDS Consolidated (KDS)

[1] KIM includes Kirby Ocean Transport Company, San Jac Marine and Osprey Line, LLC.

Performance Period

Performance is measured on a calendar year basis for the Plan. The Performance Period begins on January 1, 2022 and ends on December 31, 2022. Except as expressly provided in these Guidelines in the case of new employees or termination of employment, incentive compensation payments under the Plan are for the full year 2022 and shall not be reduced for the period between the commencement of the Performance Period and the date on which the Compensation Committee approves these Guidelines and the individual bonus targets for participants in the Plan.

Eligibility

- Generally, managerial employees and KIM wheelhouse employees classified as Captain, Relief Captain or Pilot, are eligible for participation. Selection for participation in the Plan is based upon each position's ability to impact long-term financial results of the Company and designation by management.

- To be eligible to receive an incentive payment under the Plan, participants must be employed on the last day of the Performance Period and on the date bonuses are paid for the Performance Period, unless their termination reason is death or disability or if they meet the requirements of a retirement.
  For the purposes of the Plan, the definition of retirement is a calculation resulting in either 65 years of age on termination date or age plus service is greater than or equal to 80.

- Participation in the Plan in 2022 does not guarantee participation in similar plans in future years. Participants in the Plan or in similar plans in future years will be notified annually of their selection for participation.

Individual Bonus Targets

Each participant will be assigned a target bonus level defined as a percentage of base salary earned during the Performance Period. This bonus target is based on competitive market practices, as well as the employee's ability to impact long-term Company performance. Market practices will be determined using data from either general industry, the marine transportation industry or the diesel engine services industry, depending upon the individual position being considered.

Aggregate Payment Amount

At the end of the year, a preliminary incentive payment amount will first be calculated for each participant in the Plan to determine the Aggregate Payment Amount for all participants for the year. The preliminary incentive payment amount for each participant will be calculated as of December 31, 2022 based on the target incentive level for such participant and the calculation formulas described in these Guidelines. The Aggregate Payment Amount under the Plan shall equal the sum of all such preliminary incentive payment amounts.

The Company will be obligated to pay out the full Aggregate Payment Amount to eligible participants, subject to the discretion of the Compensation Committee, and the Chief Executive Officer to the extent authorized under these Guidelines, with respect to the allocation of the Aggregate Payment Amount among individual participants. Therefore, the Company's obligation to pay out the Aggregate Payment Amount becomes fixed on the last day of the Performance Period.

The Compensation Committee, and the Chief Executive Officer if applicable, may determine the amount of the bonus paid to any participant based on the performance measures described in the Plan or any other criteria deemed appropriate in its discretion, provided that in no event will the aggregate incentive payments made pursuant to the Plan exceed the Aggregate Payment Amount.

Performance Measures
The performance measures for the Plan are:

- EBITDA (Earnings before interest, taxes, depreciation and amortization)
- EPS (Earnings per share)
- OP/ESG (metrics set on annual basis)

Annual performance targets will be established for each measure based on Kirby's budget for the year and each of the performance measures will have the following weight in calculating the preliminary incentive payment amount for each participant:

Performance Measures for Incentive Payment Calculations				
Division	**Business Group**	**Measure 1**	**Measure 2**	**Measure 3**
Corporate	Kirby Corporate Services (KCS)	EBITDA 40%	EPS 40%	OP/ESG 20%
Marine	Kirby Inland Marine (KIM)[1]	EBITDA 80%		OP/ESG 20%
Marine	Kirby Offshore Marine (KOM)	EBITDA 80%		OP/ESG 20%
Marine	Marine Shared (Marine)	EBITDA 80%		OP/ESG 20%
D&S	Kirby Engine Systems (KES)	EBITDA 80%		OP/ESG 20%
D&S	ThermoKing (TK/CON)[2]	EBITDA 80%		OP/ESG 20%
D&S	Detroit Diesel Allison (DDAs)	EBITDA 80%		OP/ESG 20%
D&S	United Engines (S&S MFG)	EBITDA 80%		OP/ESG 20%
D&S	S&S Rental (S&S MFG)	EBITDA 80%		OP/ESG 20%
D&S	S&S Distribution/Training (S&S MFG)	EBITDA 80%		OP/ESG 20%
D&S	S&S Manufacturing (S&S MFG)	EBITDA 80%		OP/ESG 20%
D&S	KDS Consolidated (KDS)	EBITDA 80%		OP/ESG 20%

(1) KIM includes Kirby Ocean Transport Company and Osprey Line, LLC. and San Jac. Marine, LP
(2) Thermo King includes Convoy
(3) EBITDA (Earnings before interest, taxes, depreciation and amortization)
(4) Earnings per share

Business Group Weighting
Calculation of the preliminary incentive payment amount for Business Group employees will be based primarily on Business Group performance with a defined portion based on Company performance. Calculation of the preliminary incentive payment amount for employees of KCS will be based on Company performance. Specific weightings are set forth in the following table:

Business Group	**Corp**	**KIM**	**KOM**	**KDS**	**KES**
KCS	100%				
KIM	30%	70%			
KOM	30%		70%		
Marine President (Marine)	50%	35%	15%		
Marine Shared (Marine)	30%	50%	20%		
KES	30%				70%
KES President	50%				50%
United/S&S	30%			70%	
DDAs	30%			70%	
TK/CON	30%			70%	
KDS President (KDS)	50%			50%	
KDS Shared (KDS)	30%			70%	

Performance Standards for Incentive Payment Calculations

Corporate and Kirby Inland Marine			
Performance Level	**Definition**	**Relationship to Budget**	**% of Target Used for Calculation**
Below Threshold	Performance did not meet minimum level	less than 80% of budget	0%
Threshold	Minimum acceptable performance for payout	80% of budget	50%
Target	Expected performance at stretch level	100% of budget	100%
Maximum	Outstanding performance	120% of budget	200%

Offshore Marine, S&S Distribution, Rental, United, Training Center, KDS MFG, ThermoKing, Detroit Diesel Allison			
Performance Level	**Definition**	**Relationship to Budget**	**% of Target Used for Calculation**
Below Threshold	Performance did not meet minimum level	less than 60% of budget	0%
Threshold	Minimum acceptable performance for payout	60% of budget	50%
Target	Expected performance at stretch level	100% of budget	100%
Maximum	Outstanding performance	140% of budget	200%

KDS President & Shared Employees			
Performance Level	**Definition**	**Relationship to Budget**	**% of Target Used for Calculation**
Below Threshold	Performance did not meet minimum level	less than 70% of budget	0%
Threshold	Minimum acceptable performance for payout	70% of budget	50%
Target	Expected performance at stretch level	100% of budget	100%
Maximum	Outstanding performance	130% of budget	200%

KES – Kirby Engine Systems			
Performance Level	**Definition**	**Relationship to Budget**	**% of Target Used for Calculation**
Below Threshold	Performance did not meet minimum level	less than 75% of budget	0%
Threshold	Minimum acceptable performance for payout	75% of budget	50%
Target	Expected performance at stretch level	100% of budget	100%
Maximum	Outstanding performance	125% of budget	200%

- Between the threshold and maximum percentages of budget achieved for each performance measure, there is a linear relationship between the percentage of budget achieved and the resulting percentage of the target payout percentage used in calculating payout amounts. As examples, 90% of budget for KIM would result in 75% of target used in the calculation of a preliminary payment amount and 105% of budget would result in 125% of target used for the calculation of a preliminary payment amount.
- The target amount determined for each performance measure is then multiplied by the weight for the performance measure and the results are added together to produce a total Company or Business Group payout percentage of the target incentive that is applied to each individual participant to calculate the Aggregate Payout Amount under the Plan.
- The Compensation Committee and the Chief Executive Officer shall in their discretion allocate the Aggregate Payment Amount among eligible participants; provided that only the Compensation Committee shall have the authority to allocate payment amounts to eligible participants (i) who are "officers" for purposes of Section 16 of the Securities Exchange Act of 1934, (ii) whose bonus target is 50% or more of base salary or (iii) whose base salary is $250,000 or more (collectively "Specified Participants"). In allocating the Aggregate Payment Amount, the Compensation Committee and the Chief Executive Officer may consider, but shall not be bound by, the preliminary incentive payment amount calculated for each participant.
- The Compensation Committee has discretion to modify the performance measures or adjust the calculation of the preliminary incentive payment amounts to adjust for acquisitions, divestures and other material business events.
- The aggregate amount of incentive payments made to participants in the Plan must equal the Aggregate Payment Amount.
- Notwithstanding the foregoing or any provision of the Plan to the contrary, no participant may receive an amount more than 200% of the individual bonus target established for such participant (the "Maximum Payment").

Administration

Incentive Payments
A participant's final incentive bonus payment is paid out in cash within 90 days following the end of the Company's fiscal year, based on audited financial statements of the Company.

Eligibility Limitation
Participants must be employed by the Company on the last day of the Performance Period and on the date bonuses are paid in order to receive a bonus, unless otherwise provided for in the Plan.

Special Circumstances
The Compensation Committee will have the sole authority to resolve disputes related to Plan administration. Decisions made by the Compensation Committee will be final and binding on all participants. The Compensation Committee has the sole discretion to determine the bonuses for newly hired, terminated, transferred and promoted employees, but will generally award bonuses based on the following provisions.

New Employees
For employees hired after the beginning of a Performance Period who are selected for participation in the Plan, the preliminary incentive payment will be prorated for the portion of the Performance Period during which they were employees of the Company, subject to the Termination of Employment restrictions.

Termination of Employment
If a participant's employment terminates prior to the last day of the Performance Period or prior to the date bonuses are paid for the Performance Period, for any reason other than death, retirement or disability, the participant will be ineligible to receive a bonus.

If a participant's employment terminates before the end of the full Performance Period or before the date bonuses are paid for the Performance Period as a result of death, retirement or disability, the preliminary incentive payment for the participant (or the participant's heirs) will be prorated at the end of the Performance Period based upon actual performance and base wages earned while employed during the Performance Period.

Transfer
The preliminary incentive payment for a participant who is transferred between Business Groups during the year will be a weighted bonus based upon the time spent at each of the Business Groups. In calculating a weighted bonus, relevant Company and Business Group performance measures will be calculated for the full Performance Period and then a blended bonus will be calculated based on the time spent at each Business Group.

Promotions
The preliminary incentive payment for a participant who is promoted or reassigned during any Performance Period and whose bonus target is subsequently increased or decreased will be a weighted bonus, based on the service before and after the promotion or reassignment.

Compensation Committee
The Plan shall be administered by the Compensation Committee. The Compensation Committee shall have the authority to interpret the provisions of the Plan and these Guidelines, to adopt such rules for carrying out the Plan as it may deem advisable, to decide conclusively all questions arising with respect to the Plan and to make all other determinations and take all other actions necessary or desirable for the administration of the Plan. All decisions and acts of the Compensation Committee shall be final and binding upon all affected parties.

In administering the Plan the Compensation Committee will:

- Approve the designation of Business Groups within the Company
- Approve the Company Performance Goal
- Approve other performance measures used and the Threshold, Target and Maximum budget performance levels for purposes of calculating preliminary incentive payment amounts and the Aggregate Payment Amount
- Approve linkage for participants to Company and Business Group performance
- Approve the individual bonus targets for all Specified Participants
- Approve the Aggregate Payment Amount to be paid to participants in the Plan
- Determine in its discretion the final incentive payments for participants.

The total amount of the incentive payments made to participants pursuant to the Plan must equal, and may not exceed, the Aggregate Payment Amount.

Chief Executive Officer (CEO)
The CEO has primary responsibility for recommending Plan Guidelines to the Committee and for delegating administrative duties associated with the Plan. The Compensation Committee may delegate additional administrative duties to the CEO or any Company officer. The CEO may make recommendations, subject to Compensation Committee approval, with respect to the incentive payment to any participant.

Chief Financial Officer (CFO)
The CFO is responsible for calculating performance under the Plan. The CFO will:

- Provide annual reports to the Compensation Committee and the CEO on each Business Group's performance at the end of the fiscal year
- Maintain a financial information system that reports results on an estimated quarterly and annual basis
- Coordinate with the Company's auditors to properly recognize any accounting expense associated with incentive payments under the Plan
- Provide the VP – of HR with the performance results of each Business Group as well as overall Company performance

Chief Human Resources Officer (CHRO)

The CHRO has responsibility for administration of the Plan and will:

- Develop and recommend eligible participants and target bonus guidelines
- Coordinate communications with participants, including materials to facilitate understanding the Plan's objectives and goals
- Calculate participants' preliminary incentive payment amounts, using the performance factors provided by the CFO
- Process paperwork approving individual incentive payments

Business Group Presidents and Vice Presidents will:

- Recommend participants in the Plan
- Coordinate with the CFO to determine any significant changes in business conditions for purposes of reviewing the Threshold, Target and Maximum performance objectives
- Assure that participants are informed of the actual incentive payment to be made for the Performance Period

EXHIBIT 21.1

KIRBY CORPORATION
CONSOLIDATED SUBSIDIARIES OF THE REGISTRANT
AT DECEMBER 31, 2021

	Domicile of Incorporation
KIRBY CORPORATION – PARENT AND REGISTRANT	Nevada
SUBSIDIARIES OF THE PARENT AND REGISTRANT	
Kirby Corporate Services, LLC	Delaware
KIM Holdings, Inc.	Delaware
Kirby Terminals, Inc.	Texas
Sabine Transportation Company	Delaware
AFRAM Carriers, Inc.	Delaware
Kirby Distribution & Services, Inc.	Delaware
Kirby Tankships, Inc.	Delaware
Kirby Ocean Transport Company	Delaware
Kirby Offshore Marine, LLC	Delaware
Adaptive KRM, LLC	Texas
K Equipment, LLC	Texas
The Hollywood Camp, LLC	Texas
CONTROLLED SUBSIDIARIES	
KIM Partners, LLC (Subsidiary of KIM Holdings, Inc.)	Louisiana
Kirby Inland Marine, LP (KIM Holdings, Inc. 1% General Partner, KIM Partners, LLC 99% Limited Partner)	Delaware
Greens Bayou Fleeting, LLC (subsidiary of Kirby Inland Marine, LP)	Texas
Dixie Carriers, Inc. (subsidiary of Kirby Inland Marine, LP)	Texas
Osprey Line, L.L.C. (Kirby Inland Marine, LP 66 2/3%)	Texas
San Jac Marine, LLC (subsidiary of Kirby Inland Marine, LP)	Delaware
Diesel Dash LLC (subsidiary of Kirby Distribution & Services, Inc.)	Delaware
Kirby Engine Systems LLC (subsidiary of Kirby Distribution & Services, Inc.)	Delaware
Marine Systems, Inc. (subsidiary of Kirby Engine Systems LLC)	Louisiana
Engine Systems, Inc. (subsidiary of Kirby Engine Systems LLC)	Delaware
United Holdings LLC (subsidiary of Kirby Distribution & Services, Inc.)	Delaware
United Engines LLC (subsidiary of United Holdings LLC)	Colorado
UE Manufacturing LLC (subsidiary of United Holdings LLC)	Colorado
Thermo King of Houston, LLC (subsidiary of United Holdings LLC)	Texas
Thermo King of Dallas, LLC (subsidiary of United Holdings LLC)	Texas
San Antonio Thermo King, Inc. (subsidiary of Thermo King of Houston, LLC)	Texas
Kirby Offshore Marine Operating, LLC (subsidiary of Kirby Offshore Marine, LLC)	Delaware
Kirby Offshore Wind, LLC (subsidiary of Kirby Offshore Marine, LLC)	Delaware
Kirby Offshore Marine Hawaii, LLC (subsidiary of Kirby Offshore Marine Operating, LLC)	Delaware
Kirby Offshore Marine Pacific, LLC (subsidiary of Kirby Offshore Marine Operating, LLC)	Delaware
Kirby Offshore Marine, Inc. (subsidiary of Kirby Offshore Marine Operating, LLC)	Delaware
Inversiones Kara Sea SRL (subsidiary of Kirby Offshore Marine Operating, LLC)	Venezuela
K-Sea Canada Holdings, Inc. (subsidiary of Kirby Offshore Marine, Inc.)	Delaware
Penn Maritime Inc. (subsidiary of Kirby Offshore Marine, LLC)	Delaware
Capella Marine Leasing, LLC (Kirby Offshore Marine Pacific, LLC 50%)	Oregon
Stewart & Stevenson LLC (subsidiary of Kirby Distribution & Services, Inc.)	Delaware
Stewart & Stevenson Power Products LLC (subsidiary of Stewart & Stevenson LLC)	Delaware
Stewart & Stevenson Canada Inc. (subsidiary of Stewart & Stevenson LLC)	Canada
Stewart & Stevenson de las Americas Colombia Ltda. (Stewart & Stevenson Petroleum Services LLC 1% General Partner, Stewart & Stevenson LLC 99% Limited Partner)	Colombia
Stewart & Stevenson de Venezuela, S.A. (subsidiary of Stewart & Stevenson LLC 99.95%)	Venezuela
Stewart & Stevenson Material Handling LLC (subsidiary of Stewart & Stevenson LLC)	Delaware
Hunt Power Systems LLC (subsidiary of Stewart & Stevenson LLC)	Delaware
Stewart & Stevenson Petroleum Services LLC (subsidiary of Stewart & Stevenson LLC)	Delaware
Stewart & Stevenson Distributor Holdings LLC (subsidiary of Stewart & Stevenson LLC)	Delaware
Stewart & Stevenson Finance LLC (subsidiary of Stewart & Stevenson LLC)	Delaware
Stewart & Stevenson Manufacturing Technologies LLC (subsidiary of Stewart & Stevenson LLC)	Delaware

Stewart & Stevenson Acquisition LLC (subsidiary of Stewart & Stevenson LLC)	Delaware
Stewart & Stevenson Rentals LLC (subsidiary of Stewart & Stevenson LLC)	Delaware
Stewart & Stevenson FDDA LLC (subsidiary of Stewart & Stevenson LLC)	Delaware
Transmissions Y Embragues, S.A. (subsidiary of Stewart & Stevenson de Venezuela, S.A.)	Venezuela
Stewart & Stevenson Hong Kong Limited (subsidiary of Stewart & Stevenson Petroleum Services LLC)	Hong Kong
Stewart and Stevenson Healthcare Technologies, LLC (subsidiary of Stewart & Stevenson LLC)	Texas
Higman Marine, Inc. (subsidiary of Kirby Inland Marine, LP)	Delaware
Higman Barge Lines, Inc. (subsidiary of Higman Marine, Inc.)	Delaware
Higman Marine Services, Inc. (subsidiary of Higman Marine, Inc.)	Delaware
Higman Service Corporation (subsidiary of Higman Marine, Inc.)	Delaware
Alamo Barge Lines, LLC (subsidiary of Kirby Inland Marine, LP)	Delaware
Empty Barge Lines, Inc. (subsidiary of Kirby Inland Marine, LP)	Texas
Empty Barge Lines II, Inc. (subsidiary of Kirby Inland Marine, LP)	Texas
Empty Barge Lines III, Inc. (subsidiary of Kirby Inland Marine, LP)	Texas
EBL Marine I LLC (subsidiary of Kirby Inland Marine, LP)	Texas
EBL Marine II LLC (subsidiary of Kirby Inland Marine, LP)	Texas
EBL Marine III LLC (subsidiary of Kirby Inland Marine, LP)	Texas

EXHIBIT 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the registration statements (No. 333-57625, No. 333-72592, No. 333-129290, No. 333-129333, No. 333-152565, No. 333-152566, No. 333-184598, and No. 333-184599) on Form S-8 and (No. 333-220974 and No. 333-222858) on Form S-3 of Kirby Corporation of our reports dated February 18, 2022, with respect to the consolidated financial statements of Kirby Corporation and the effectiveness of internal control over financial reporting.

/s/ KPMG LLP

Houston, Texas
February 18, 2022

EXHIBIT 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER

In connection with the filing of the report on Form 10-K for the year ended December 31, 2021 by Kirby Corporation, David W. Grzebinski certifies that:

1. I have reviewed this report on Form 10-K of Kirby Corporation (the “registrant”);

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and

5. The registrant’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

/s/ DAVID W. GRZEBINSKI

David W. Grzebinski

President and Chief Executive Officer

Dated: February 18, 2022

EXHIBIT 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER

In connection with the filing of the report on Form 10-K for the year ended December 31, 2021 by Kirby Corporation, Raj Kumar certifies that:

1. I have reviewed this report on Form 10-K of Kirby Corporation (the "registrant");

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

/s/ RAJ KUMAR
Raj Kumar
Executive Vice President and
Chief Financial Officer

Dated: February 18, 2022

EXHIBIT 32

Certification Pursuant to Section 18 U.S.C. Section 1350
(As adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002)

In connection with the filing of the Annual Report on Form 10-K for the year ended December 31, 2021 (the “Report”) by Kirby Corporation (the “Company”), each of the undersigned hereby certifies that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ DAVID W. GRZEBINSKI
David W. Grzebinski
President and Chief Executive Officer

/s/ RAJ KUMAR
Raj Kumar
Executive Vice President and
Chief Financial Officer

Dated: February 18, 2022