

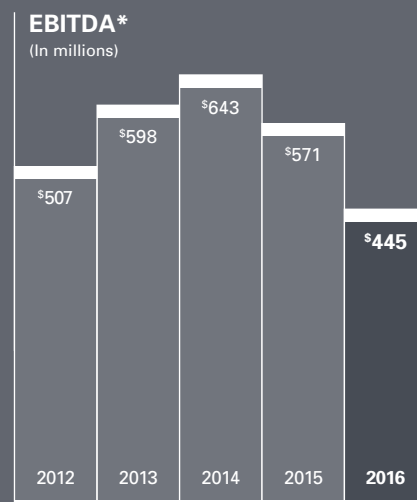
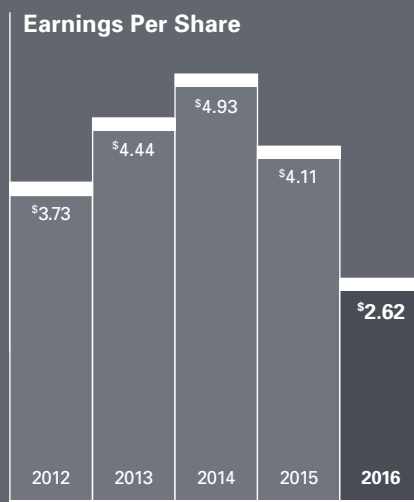
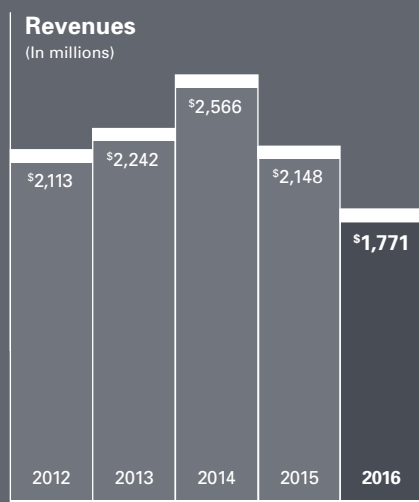


Kirby Corporation



Financial Highlights

(In thousands, except per share amounts)	For the years ended December 31,				
	2016	2015	2014	2013	2012
Revenues:					
Marine transportation	\$ 1,471,893	\$ 1,663,090	\$ 1,770,684	\$ 1,713,167	\$ 1,408,893
Diesel engine services	298,780	484,442	795,634	529,028	703,765
	\$ 1,770,673	\$ 2,147,532	\$ 2,566,318	\$ 2,242,195	\$ 2,112,658
Net earnings attributable to Kirby	\$ 141,406	\$ 226,684	\$ 282,006	\$ 253,061	\$ 209,438
Net earnings per share attributable to Kirby common stockholders (diluted)	\$ 2.62	\$ 4.11	\$ 4.93	\$ 4.44	\$ 3.73
EBITDA—Earnings before interest, taxes, depreciation and amortization:*					
Net earnings attributable to Kirby	\$ 141,406	\$ 226,684	\$ 282,006	\$ 253,061	\$ 209,438
Interest expense	17,690	18,738	21,461	27,872	24,385
Provision for taxes on income	84,942	133,742	169,782	152,379	127,907
Depreciation and amortization	200,917	192,240	169,312	164,437	145,147
EBITDA*	\$ 444,955	\$ 571,404	\$ 642,561	\$ 597,749	\$ 506,877
Property and equipment, net	\$ 2,921,374	\$ 2,778,980	\$ 2,589,498	\$ 2,370,803	\$ 2,315,165
Total assets	\$ 4,303,499	\$ 4,152,281	\$ 4,137,614	\$ 3,675,860	\$ 3,645,060
Long-term debt, including current portion	\$ 722,802	\$ 774,849	\$ 712,405	\$ 742,493	\$ 1,127,042
Total equity	\$ 2,412,867	\$ 2,279,196	\$ 2,264,913	\$ 2,022,153	\$ 1,707,054



On the Cover: The M/V Pass Christian, a Kirby Inland Marine 1800 horsepower inland towboat, transits the Houston Ship Channel with two loaded 30,000 barrel tank barges. The M/V Pass Christian is named after the town Pass Christian, Mississippi.

* EBITDA, defined as net earnings attributable to Kirby before interest expense, taxes on income, depreciation and amortization, is a non-GAAP financial measure used by Kirby because of its wide acceptance as a measure of operating profitability before nonoperating expenses (interest and taxes) and noncash charges (depreciation and amortization).

To Our Shareholders



Joe Pyne
Chairman of the Board

David Grzebinski
President and Chief Executive Officer

Our businesses were challenged in 2016; however, the year provided Kirby ample opportunities to build a solid foundation for better times. We enter 2017 in a strong financial position, with the lowest debt-to-capitalization ratio that we've had in over two years due to our robust free cash flow generation, in spite of continued market challenges. Our inland marine transportation fleet is in great condition with one of the lowest average fleet ages in our company's history. The inland tank barge market is poised for recovery, likely sometime in 2017, as we will benefit from new petrochemical volume likely to come on stream late in the year and continue for several more years beyond that. Our coastal market appears to be near the front end of a difficult cycle, but we continue to invest in the fleet with a build plan for new tugboats over the next two years that will modernize the coastal fleet and provide significant value to our customers. In our diesel engine services markets, numerous indicators suggest we are in the early innings of a cyclical upturn for the energy sector that will benefit our land-based business. It is essential that we look back on 2016 and extract important lessons from a tough year, but also not lose sight of how we exited the year, with exciting opportunities that are now closer at hand.

Our 2016 financial results reflected \$1.8 billion in revenues, net earnings of \$141 million, earnings per share of \$2.62 and EBITDA of \$445 million. While these results were down from 2015, our free cash flow for 2016 was much more resilient, declining only modestly from 2015. Our 2016 free cash flow excluding acquisitions, but after investing \$231 million in new

equipment and fleet and facility improvements, was \$183 million. We expect capital investments made in 2016, a year that saw many of our businesses exposed to challenging industry dynamics, will garner high returns in better markets and contribute significantly to our long-term earnings potential.

We faced a number of market challenges in 2016, driven by changes in industry dynamics. We responded to this tough environment by streamlining our cost structure, strategically deploying capital for long-term benefit and reinvigorating our commitment to safety and customer service. While many of the changes we made were unheralded and won't be evident in our financial performance until we see some market improvement, that doesn't mean they weren't significant. Some of these efforts are worth highlighting:

- Streamlining our cost structure. During 2016, our marine transportation revenue was impacted by lower pricing, but we maintained a steady gross margin from the prior year by aggressively managing our costs. Through efforts across the organization, we significantly reduced the cost of horsepower, boat and barge supplies, vessel maintenance and facility leases. We also streamlined back office functions in traffic, sales and accounting, and captured additional cost savings through competitive bidding, supplier consolidation and transaction cost reductions.
- Strategically deploying capital for long-term benefit. Our acquisitions in 2016 included 27 inland tank barges, 14 inland towboats, four coastal tugboats and one coastal tank barge. The acquisitions helped offset the retirement of older vessels in our fleet and expanded our reach with well-regarded, globally recognized customers. We also acquired Valley Power Systems' EMD franchise in the fourth quarter of 2016, which expands our engine distribution network along the West Coast with one of our most highly valued supplier relationships, a relationship that stretches back over 50 years.
- Reinvigorating our commitment to customer service and safety. Our franchise value, our customer relationships and our industry reputation rest wholly on our ability to deliver on an unwavering commitment to safe operations and good customer service. Over the course of 2016, we tested our initial rollout of Atlas, a Kirby-developed, state-of-the-art, satellite-linked billing and logistics system, on a test group of offshore tugboats. The capabilities of Atlas, we believe, are unparalleled in the tank barge industry, and we expect to begin our fleet-wide deployment of the system in 2017. Kirby's history of dedication and prioritization of safety over all other concerns has never wavered, but there are always opportunities to improve. Amongst numerous other efforts to go a step further in our focus on safety and to enhance customer service, we commenced a comprehensive review of operational procedures, developed new assessment and reporting teams, augmented our communication of priorities throughout the organization, consolidated reporting structures and added new training programs. Our focus on safety during the year was reflected in the achievement of Kirby's lowest lost time injury rate in company history.

In a difficult year, the dedication of our employees allowed us to achieve much, but many of our markets were under significant industry-wide pressure. In our marine transportation markets, industry overcapacity that first manifested itself in 2015, from the decline in crude oil and natural gas condensate volumes carried by tank barge, continued into 2016 and, by mid-year, led to lower utilization levels and steep price declines in the inland tank barge markets. As tank barges were cleaned out of crude service to compete in the refined petroleum products, black oil and petrochemical transportation markets, the industry was forced to contend with an oversupply of available capacity. The trend of increasingly available supply from tank barges removed from crude service appeared to abate by the middle of 2016. However, for the market to improve, industry supply must contract and/or demand must improve. The age profile of both the inland and coastal tank barge markets, as well as the economics associated with regulatory shipyard cycles, compels an acceleration of tank barge retirements in cyclical downturns and a slowdown in the building of new equipment. This time is no different. We believe approximately 100 inland tank barges were retired and 100 were built in 2016. New construction is down roughly 60% from the prior year with approximately 40 inland tank barges ordered in 2016 for delivery in 2017. In the coastal market, we do not believe any new orders for coastal tank barges were executed with shipyards after the middle of 2016 and that carriers began planning for further vessel retirements in 2017.

In our inland transportation markets, demand across the various products we carry varied through the year, which contributed to added volatility. Petrochemical demand remained at stable or increasing levels. Some of this growth was associated with new Gulf Coast petrochemical plants that came on-line during the year. Refined petroleum products demand was stable early in the year, but declined significantly in early summer. A combination of factors likely contributed to the decline, but we believe it was largely associated with unprecedented inventory levels across the nation's storage facilities that led to an inventory drawdown during the summer. Key macro indicators of U.S. refined petroleum product demand were constructive throughout the year, including record levels of vehicle miles traveled, high refinery utilization levels and increasing U.S. refinery capacity. Our black oil market, including products such as asphalt, heavy fuel oil and vacuum gas oil, was volatile during the year, as refiners and traders responded to volatility in commodity prices. The crude and natural gas condensate markets suffered from weak demand throughout the year, although we did experience a small pickup in natural gas condensate volume out of the Utica shale basin in the fourth quarter.

Inland tank barge utilization reflected changing demand patterns during the year. Utilization was at the 90% level as we entered the year and bottomed in the low 80% range in July, before gradually increasing and finishing the year in the high 80% range. Term contract pricing for the inland fleet was down in the 5% to 9% range year over year, and spot pricing was below term contract pricing. While market fundamentals weighed on our financial results, Kirby's inland operating model proved resilient. Our ability to manage costs and quickly align the towboat fleet with current tank barge demand, an operating model that has served us well over the course of numerous industry cycles, helped to mitigate the financial impact of lower utilization.

In our coastal fleet, utilization declined steadily throughout the year. Demand in our petrochemical; black oil, excluding crude and natural gas condensate; and refined petroleum products markets was generally stable. However, demand in the crude oil and natural gas condensate markets was depressed, and we faced intense competition for product transportation in our other markets from vessels that had been cleaned out of crude and condensate service. As a result, customers elected to allow term contracts to expire, which put more equipment into the spot market. As coastal equipment moved off contract and traded in the spot market, utilization fell and unreimbursed transit costs increased, a result of equipment being re-positioned to take advantage of available spot moves. Additionally, spot contract pricing in the coastal market declined throughout the year. The impact of these trends is likely to persist into 2017; however, the lower pricing and utilization across the coastal market are influencing operators' decisions to retire older vessels and have led to a halt in new construction orders. As a result of weak utilization and a customer preference for younger vessels, as well as safety, reliability, cost and new regulatory requirements for ballast water treatment systems, the influences to retire older vessels during regulatory shipyard periods is extremely compelling. We expect supply in this market to rationalize during 2017 and 2018, which will gradually lead to better supply-demand balance.

In 2016, the United States underwent one of the most severe energy sector downturns in our nation's history, with oil prices per barrel reaching lows in the \$20's before recovering and stabilizing in the mid-\$50 range in the middle of the year. This had a significant impact on our land-based diesel engine services market. Drilling activity, as reflected in the rig count, fell precipitously, as did well completion activity, the driver of our land-based diesel engine service customers' performance. As a result, our oil service customers significantly cut their 2016 capital spending levels. Manufacturing of oilfield service equipment, including pressure pumping units, was negligible during the year. In addition, service of land-based diesel engines, transmissions and pumps, and the sale of parts also declined. Counter to these trends were market realities in the oilfield service space that are very positive for our business. Service intensity in the oilfield services market grew during the year, with significant increases in average lateral lengths, stages per well and sand consumption per well. Increased service intensity drives a shorter repair cycle for oilfield service equipment. Additionally, in order to keep pressure pumping equipment in the field operating, completion providers retired older equipment and cannibalized both new and used equipment for usable parts. This dynamic of heightened service intensity, coupled with the cannibalization of pressure pumping equipment,

caused the nation's pressure pumping equipment to fall into a significant state of disrepair. With the modest recovery in the rig count in the second half of 2016, completion activity improved slightly, and demand from our land-based diesel engine customers began to increase. We ended 2016 with the highest level of pressure pumping equipment on the premises awaiting remanufacturing in our history.

Our marine diesel engine services market experienced weakness throughout 2016 from its Gulf of Mexico oilfield service customers. In addition, customers deferred major maintenance projects in many of our geographic markets largely due to the weak barge market, including service demand for towboats serving in the dry cargo industry, and, to a lesser extent, the general economy. The power generation market experienced steady demand for engine-generator set upgrade projects and parts sales for both domestic and international customers.

During 2016, we continued to reinvest in our marine inland and coastal fleets, spending \$231 million on capital expenditures. We spent \$11 million on the construction of inland tank barges and towboats, \$106 million for progress payments on the construction of coastal tank barges and tugboats, and \$114 million primarily for upgrades to our existing inland and coastal fleets. Included in this amount were final payments for three new coastal articulated tug-barge units (ATBs), including two 185,000 barrel ATBs and a single 155,000 barrel ATB, as well as a 35,000 barrel coastal petrochemical tank barge.

Over the course of 2016, we took delivery of five new inland tank barges. We also acquired 27 inland tank barges from a competitor. Net of inland tank barge retirements, we reduced our inland tank barge capacity during the year by a small amount.

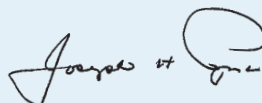
Our continued strong cash flow allowed us to maintain our balance sheet strength and our investment grade ratings of BBB+ by Standard & Poor's and Baa2 by Moody's. Our debt at year-end was \$723 million versus \$775 million at December 31, 2015, and consisted of \$500 million of unsecured senior notes, \$150 million due in 2020 and \$350 million due in 2023, and \$223 million outstanding under our \$550 million unsecured revolving credit facility. Our debt-to-capitalization ratio at year-end was 23.1% compared with 25.4% at December 31, 2015.

On a more somber note, it is with deep regret that we report the death of George A. Peterkin, Jr., on November 10, 2016, at the age of 89. George served as a Kirby director from 1969 to 2014, Kirby's President from 1973 to 1995, Chairman of the Board from 1995 to 1999 and Chairman Emeritus from 1999 to 2014. During George's 45-year tenure as a Kirby director, its President, Chairman and Chairman Emeritus, he contributed significantly to the transition of Kirby from primarily an oil and gas exploration company with a small barge line to the United States' largest tank barge operator and diesel engine services provider. George's leadership, friendship and wise counsel will be remembered with gratitude.

As we look out to 2017, a number of factors should begin to lead to a better business environment and work in our favor. The inland tank barge market, after two years of persistent pricing declines, is starting to show some signs of stabilization and an improved supply-demand balance, which we think will lead to improving pricing at some point during the year. An improving inland tank barge market would be a welcome change and would help counterbalance some of the challenges we will face from a coastal tank barge market that is likely to remain challenged throughout the year. In our diesel engine services market, an improving energy market will have widespread positive impacts on our business, and is likely to be an especially strong tailwind for our land-based diesel engine services market. From a more general economic perspective, we are optimistic about a potentially more pro-business political environment. We are eagerly awaiting consideration of tax reform, increased infrastructure spending and a pro-growth regulatory environment. While it is still too early to know what legislation will ultimately be enacted, some of the proposals under discussion would boost our profitability through lower taxes, incentivize our customers to build and expand facilities, and likely lead to a better overall business climate.

In challenging times we are tested the most. Kirby has benefited from employees who rise to the challenge of difficult times. In 2016, our employees, engaging with our customers who rank amongst the most highly regarded companies in the world, admirably contended with a volatile commodity and market environment while working to keep our operations safe and successful. To our employees and our Board of Directors, we extend our warmest thanks for your hard work and wise counsel this past year. To our shareholders, we thank you for your support and look forward to a bright future.

Respectfully submitted,



Joseph H. Pyne
Chairman of the Board
Houston, Texas, March 8, 2017



David W. Grzebinski
President and Chief Executive Officer

Marine Transportation

The United States possesses 12,500 miles of coastline providing numerous ports and harbors, complemented by the inland waterway system consisting of 12,000 miles of commercially navigable inland interconnected rivers, canals and intracoastal waterways that serve as “water highways.” The United States coastline and inland waterway system are one of the most vibrant and efficient transportation systems in the world, linking the nation’s heartland and coastal states to each other and to the world. The majority of the United States refineries and petrochemical plants are located in ports and harbors along these coastlines and along the navigable inland waterways. These water highways play a vital role in the regional distribution of petrochemicals, refined petroleum products, black oil, including crude oil and natural gas condensate, agricultural chemicals and dry-bulk products.

Marine transportation is the most energy-efficient means of transporting bulk commodities compared with railroads and trucks. A lower Mississippi River liquid products tow of 15 tank barges has the carrying capacity of approximately 216 railroad tank cars plus six locomotives, or approximately 1,050 tractor-trailer tank trucks. Marine transportation is safer than other modes of transportation, generally involving less urban exposure and operating on a system with few crossing junctures and in areas relatively remote from population centers.

The inland marine transportation markets are served by wholly owned subsidiary Kirby Inland Marine, the United States’ largest inland tank barge operator, transporting petrochemicals, black oil, refined petroleum products and agricultural chemicals by inland tank barges throughout the Mississippi River System, Gulf Intracoastal Waterway and Houston Ship Channel.

The coastal marine transportation markets are served by wholly owned subsidiary Kirby Offshore Marine, the United States’ largest coastal tank barge operator in the 195,000 barrel or less category, transporting refined petroleum products, black oil and petrochemicals by coastal tank barges along all three United States coasts and in Alaska and Hawaii, as well as dry-bulk products along the Gulf Coast and East Coast.

The M/V Niceville, a Kirby Inland Marine 1800 horsepower inland towboat, departs Ole River Fleeting adjacent to the Houston Ship Channel with a loaded 30,000 barrel tank barge.



Results of Operations for 2016

Operating income of \$257 million on revenues of \$1.5 billion compared with operating income of \$375 million on revenues of \$1.7 billion for 2015.

Operating margin of 17.5% compared with 22.5% for 2015.

Inland operations were 67% of revenues and offshore operations 33%.

Petrochemicals represented 49% of transportation revenues, black oil 25%, refined petroleum products 23% and agricultural chemicals 3%.

Reduced crude oil and natural gas condensate volumes to be moved by tank barge due to additional pipeline and industry-wide tank barge construction during 2013 through 2016, many of which were tank barges for crude oil and natural gas condensate movements, resulted in excess industry-wide tank barge capacity, lower utilization and corresponding lower term contract renewals and spot contract pricing in both the inland and coastal markets. Inland marine transportation utilization declined to the high 80% level at the end of 2016, occasionally declining to the low to mid-80% range during the year, from the 90% to 95% range at the beginning of 2016 and throughout 2015.

Coastal marine transportation utilization also declined throughout 2016, from the high 80% to low 90% range in the 2016 first quarter to the low 80% level in the fourth quarter, compared to the 90% to 95% range throughout the majority of 2015.

Inland marine transportation markets reflected stable demand for the movement of petrochemicals and agricultural chemicals. Refined petroleum products demand increased as a result of the SEACOR Holdings Inc. acquisition in April 2016. Black oil demand was weak throughout the year.

Coastal marine transportation markets reflected stable demand for the movement of black oil, petrochemicals and dry products. Demand for the transportation of refined petroleum products declined, primarily as a result of weak heating oil and gasoline demand in the Northeast. As demand for the coastal transportation of crude oil and natural gas condensate declined, increased industry-wide coastal capacity 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, leading to increased idle time and voyage costs.

Kirby Inland Marine

Kirby Inland Marine is the leading United States transporter of bulk liquid cargoes by inland tank barge, offering distribution services throughout the Mississippi River System, the Gulf Intracoastal Waterway and the Houston Ship Channel. The nation's inland tank barge fleet is composed of approximately 3,850 barges, owned and operated by approximately 45 operators, a diverse and independent mixture of large integrated transportation companies and small operators, as well as captive fleets owned by United States refining and petrochemical companies. Kirby Inland Marine transports petrochemicals, black oil, including crude oil and natural gas condensate, refined petroleum products and agricultural chemicals for a customer base consisting of the United States' largest petrochemical and refining companies. During 2016, Kirby Inland Marine moved over 45 million tons of liquid cargo on the United States inland waterway system. Kirby Inland Marine provides a critical link in customers' supply chain, transporting and transferring bulk liquid products that keep plants and refineries operating efficiently.

Inland Tank Barge Fleet

Petrochemicals/Refined products	687
Black oil	120
Pressure	54
Anhydrous ammonia	10
Specialty	5
Total	876
Total Barrel Capacity	17.9 MM

Inland Towboat Fleet

800-1300 HP	71
1400-1900 HP	72
2000-2400 HP	56
2500-3200 HP	18
3300-4800 HP	10
5000 HP and greater	1
Spot charters	2
Total	230

The M/V City of Redwood, a Kirby Inland Marine 3800 horsepower inland towboat, pushes nine loaded inland tank barges on the Ohio River. The M/V City of Redwood works in Kirby's linehaul service. Loaded tank barges are staged in the Baton Rouge area from Gulf Coast refineries and petrochemical plants, and are transported from Baton Rouge to waterfront terminals and plants on the Mississippi, Illinois and Ohio Rivers on regularly scheduled linehaul tows. Tank barges are dropped off and picked up going up and down the rivers.

Kirby's significant presence on the Mississippi River System, the Gulf Intracoastal Waterway and the Houston Ship Channel gives Kirby the ability to service its customers' needs throughout the inland waterway system. Kirby transports raw material feedstocks to petrochemical plants, petrochemical products from one plant to another plant for further processing, and more finished products to manufacturing companies and to waterfront terminals for both domestic and foreign destinations. Kirby transports finished gasoline blends and additives, aviation fuel, heating oil, diesel fuel and ethanol from refineries to waterfront terminals for both domestic and foreign destinations. Black oil, including crude oil and natural gas condensate, is transported to waterfront terminals and residual fuel to utilities. Agricultural chemicals are transported primarily to waterfront terminals in the Midwest and South Texas.

Kirby's inland fleet consists of 876 tank barges, comprising 17.9 million barrels of cargo capacity and representing approximately 23% of the total number of industry inland tank barges. At the end of 2016, the average age of Kirby's inland tank barge fleet was 14.9 years, a significant reduction from 23.9 years

in 2008 (see table). Kirby operated 230 towboats at the end of 2016, crewed by highly trained vessel personnel and supported by experienced shoreside staff and state-of-the-art communication and training systems and facilities.

Acquisition

In April 2016, Kirby acquired the inland tank barge fleet of SEACOR Holdings Inc., which consisted of 27 inland 30,000 barrel tank barges and 14 inland towboats. The average age of the 27 tank barges was ten years.

Products Transported and Demand Drivers

Petrochemicals: Products transported include benzene, styrene, methanol, acrylonitrile, xylene, caustic soda, naphtha, butadiene, propylene, butane and propane. Drivers are the manufacture of consumer nondurable goods (70%) and consumer durable goods (30%).

Black Oil: Products transported include residual fuel, fuel oils, vacuum gas oil, asphalt, carbon black feedstock, crude oil, natural gas condensate and ship bunkers. Drivers are fuel for power plants and ships, feedstock for refineries, certain durable goods and road construction.

Refined Petroleum Products:

Products transported include finished gasoline, gasoline blendstock, aviation fuel, heating oil, diesel fuel and ethanol. Drivers are vehicle usage, air travel, weather conditions and refinery utilization.

Agricultural Chemicals: Products transported include anhydrous ammonia, nitrogen-based liquid fertilizer and industrial ammonia. Drivers are corn, cotton and wheat production, and chemical feedstock usage.

Inland Tank Barge Fleet Average Age by Year

Year	Barges	Barrel Capacity	Average Age
2016	876	17.9	14.9
2015	898	17.9	15.2
2014	884	17.8	15.3
2013	861	17.3	16.2
2012	841	16.7	17.7
2011	819	16.2	18.9
2010	825	15.9	20.3
2009	863	16.7	22.2
2008	914	17.5	23.9



Kirby Offshore Marine

Kirby Offshore Marine is an integral part of the United States coastal tank barge industry, composed of approximately 15 large integrated marine transportation companies and small operators. The nation's coastal tank barge fleet in the 195,000 barrel or less category consists of approximately 295 barges. The industry distributes refined petroleum products from regional refineries, storage facilities and pipeline terminals to regional distribution terminals along the East, Gulf and West Coasts and in Alaska and Hawaii. Black oil, including crude oil and natural gas condensate, is distributed regionally from terminals to coastal refineries and other terminals, and residual fuel to utilities on the East, Gulf and West Coasts. More finished petrochemicals are primarily distributed from Gulf Coast petrochemical plants to manufacturing customers along the Gulf and East Coasts.

Kirby's coastal fleet consists of 69 coastal tank barges, comprising 6.2 million barrels of cargo capacity and representing approximately 23% of the total number of industry coastal tank barges in the 195,000 barrels or less category, and 75 tugboats. Kirby's coastal tank barge fleet has the flexibility to access ports inaccessible to larger vessels, while still delivering large volumes of product.

Kirby Offshore Marine has a large array of tank barge capabilities and capacities, as well as a broad geographic presence with its Atlantic and Pacific fleets, providing a single source of transportation services to its petrochemical, black oil and refining customers' supply chain. The Atlantic fleet operates along the eastern seaboard of the United States and along the Gulf Coast, basically from Texas to Maine. The

Pacific fleet operates along the Pacific Coast from Southern California to Washington State, throughout Alaska, and from California to Hawaii and the Hawaiian Islands.

Kirby Offshore Marine also transports raw sugar and other products from the Gulf Coast to East Coast ports. Kirby Ocean Transport Company transports coal from waterfront terminals in Louisiana across the Gulf of Mexico to a Florida power generation facility.



Products Transported and Demand Drivers

Refined Petroleum Products:

Products transported include finished gasoline, gasoline blendstock, aviation fuel, heating oil, diesel fuel and ethanol. Drivers are vehicle usage, air travel, weather conditions and refinery utilization.

Black Oil: Products transported include residual fuel, fuel oils, vacuum gas oil, asphalt, carbon black feedstock, crude oil, natural gas condensate and ship bunkers. Drivers are fuel for power plants and ships, feedstock for refineries, certain durable goods and road construction.

Petrochemicals: Products transported include cumene, phenol, acetone, cyclohexane, caustic soda and naphtha. Drivers are the manufacture of consumer nondurable goods (70%) and consumer durable goods (30%).

Dry Products: Products transported include raw sugar, coal, limestone rock and fertilizer. Drivers are sugar, cotton and wheat production, the coal mining industry and the construction industry.

New Construction

The first of two new coastal 185,000 barrel articulated tank barge and 10000 horsepower tugboat units (ATBs) was placed in service in late 2015 and the second ATB in June 2016. The first of two new 155,000 barrel and 6000 horsepower ATBs was placed in service in December 2016, and the second is scheduled for the summer of 2017. A new 35,000 barrel coastal tank barge for the petrochemical trade was placed in service in December 2016.

Kirby is also building coastal tugboats: two 4900 horsepower tugboats are anticipated to be placed in service in 2017 and six 5000 horsepower ATB tugboats are scheduled to be placed in service in 2017 and 2018. The eight coastal tugboats are replacements for older coastal tugboats to be removed from service.

The Kirby 155-01, a Kirby Offshore Marine 155,000 barrel coastal tank barge, with the M/V Heath Wood, a 6000 horsepower tugboat, prior to their maiden voyage in late 2016. This is the first of two new 155,000 barrel coastal articulated tank barge and tugboat units, with the second unit anticipated to be placed in service in the summer of 2017.

Coastal Tank Barge Fleet

Refined products/petrochemicals	48
Black oil	21
Total	69
Total Barrel Capacity	6.2 MM

Coastal Tugboat Fleet

1000–1900 HP	8
2000–2900 HP	6
3000–3900 HP	17
4000–4900 HP	19
5000–6900 HP	13
Greater than 7000 HP	12
Total	75

Offshore Dry-Bulk Cargo Fleet

Dry-bulk barge and tugboat units	6
Deadweight tonnage	111,000



Diesel Engine Services

Within the diesel engine industry, engines are categorized by their rotational speeds into three groups: high-speed engines (over 1,000 RPM), medium-speed engines (300–1,000 RPM) and slow-speed engines (under 300 RPM). Kirby Corporation's diesel engine services operations focus on high-speed and medium-speed diesel engines and ancillary products. Medium-speed diesel engines provide the main propulsion for large marine vessels and provide emergency standby, peak and base load power generation. High-speed diesel engines provide the main propulsion for marine towboats, power generation on marine vessels, tank barge pumps, engines on all types of oilfield service equipment and commercial trucks.

The high-speed diesel engine population in the United States is considerably larger than the medium-speed population, as approximately 75% of the commercial vessels operating in the United States have high-speed propulsion engines. The best example of the use of medium-speed and high-speed diesel engines is Kirby's marine transportation fleet. Kirby operates approximately 230 medium-speed propulsion engines on its larger Mississippi River towboats, and coastal and offshore tugboats. Kirby operates over 2,100 high-speed diesel engines used as propulsion engines on its smaller towboats and as power supply for electrical generators and pumps on all of its boats and tank barges.

Kirby Corporation, through its wholly owned subsidiaries Kirby Engine Systems and United Holdings, provides a service that is essential to the day-to-day operations of marine companies, power generation facilities, and the oil and gas industry. Kirby provides aftermarket in-house and worldwide in-field service, offering its long-standing customers a single source for the service and distribution of diesel engines and ancillary products, and the manufacture and remanufacture of oilfield service equipment.

A Marine Systems, Inc. technician is installing an air cleaner on a Cummings K38 diesel engine. Principal diesel engines serviced are EMD, Caterpillar, Cummings, MTU Detroit Diesel and John Deere.



Results of Operations for 2016

Operating income of \$3.2 million on revenues of \$299 million compared with operating income of \$18.9 million on revenues of \$484 million for 2015.

Operating margin of 1.1% compared with 3.9% for 2015.

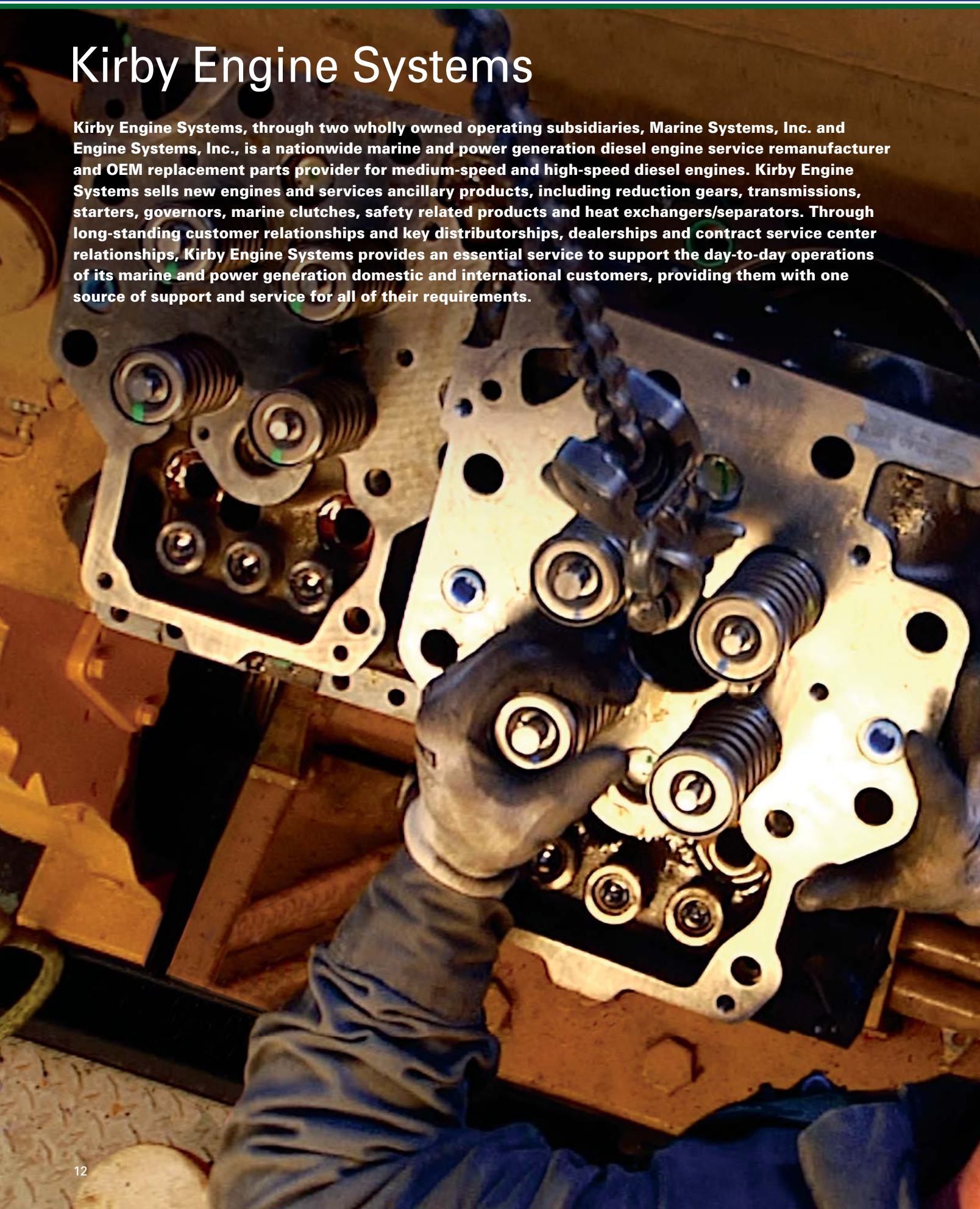
Land-based operations represented 48% of diesel engine services revenues, marine 36% and power generation 16%. The marine diesel engine services market remained at depressed levels during 2016, primarily due to continued weakness in the Gulf of Mexico oilfield services market. In addition, customers continued to defer major maintenance projects in many regions of the marine diesel engine services market largely due to the weaker marine market and, to a lesser extent, the general economy. The power generation market was stable, benefiting from major

generator set upgrades and parts sales for both domestic and international power generation customers.

The land-based market challenges continued during 2016, primarily due to the lack of demand for the manufacture of pressure pumping units and other oilfield service equipment, and for the sale and distribution of engines, transmissions and parts due to the impact from the low price of crude oil during 2015 and the first half of 2016 with a resulting decline in drilling in North American shale formations. During the second half of 2016, with the increase in the price of crude oil and resulting increase in drilling activity in the shale formations, the land-based market saw an increase in activity for the remanufacturing and servicing of pressure pumping units.

Kirby Engine Systems

Kirby Engine Systems, through two wholly owned operating subsidiaries, Marine Systems, Inc. and Engine Systems, Inc., is a nationwide marine and power generation diesel engine service remanufacturer and OEM replacement parts provider for medium-speed and high-speed diesel engines. Kirby Engine Systems sells new engines and services ancillary products, including reduction gears, transmissions, starters, governors, marine clutches, safety related products and heat exchangers/separators. Through long-standing customer relationships and key distributorships, dealerships and contract service center relationships, Kirby Engine Systems provides an essential service to support the day-to-day operations of its marine and power generation domestic and international customers, providing them with one source of support and service for all of their requirements.



Based in Houma, Louisiana, Kirby Engine Systems provides factory-trained and authorized project engineers, mechanics and machinists through 12 strategically located service and parts facilities along the Gulf Coast, East Coast and West Coast, and in the Midwest. In-field service is provided throughout the United States as well as at destinations worldwide. During 2016, project engineers and mechanics serviced marine vessels, and power generation and nuclear facilities in numerous foreign countries, including Slovenia, Spain and Taiwan.

Principal medium-speed diesel engines serviced are manufactured by EMD Power Products (EMD), with which Kirby Engine Systems has a 51-year relationship, serving as both an EMD distributor and a contract service center for select markets and locations, providing service and parts. Kirby Engine Systems serves as an EMD authorized distributor for 17 eastern states and nine western states for marine and power generation applications, and as the exclusive worldwide distributor of EMD products to the nuclear industry.

Principal high-speed diesel engines serviced are manufactured by Caterpillar, Cummins, MTU Detroit Diesel and John Deere. Kirby Engine Systems currently serves as a factory-authorized marine dealer or has a dealership in certain states for these high-speed diesel engine manufacturers. Kirby Engine Systems also has dealerships with reduction gear manufacturers.

Acquisition

In October 2016, Marine Systems purchased certain assets of Valley Power Systems, Inc. and Valley Power Systems Northwest, Inc. The assets purchased are mainly related to the EMD diesel engine supply and service business and includes an EMD distributor agreement to sell EMD diesel engines in nine western states.

Markets

Marine: Medium-speed and high-speed diesel engines, OEM replacement parts and ancillary products on inland, coastal and offshore towboats and tugboats, harbor docking tugboats, offshore oilfield service vessels, offshore oil and gas drilling rigs, offshore commercial fishing vessels, Great Lakes ore vessels, dredging vessels, coastal ferries and United States government vessels. Market drivers are the activity levels of the industries served and the economic cycles of such industries.

Power Generation: Medium-speed diesel engines, ancillary products, safety-related products used in standby, peak and base-load power generation, and generator set and pump upgrades for domestic and international utilities, domestic municipalities and the worldwide nuclear power industry.

A Marine Systems, Inc. technician is installing a cylinder head on a Caterpillar 3500 series diesel engine, providing an essential service to support the day-to-day operations of its marine customers, providing them with one source of support and service for all of their requirements.

Manufacturer Relationships

Medium-Speed Diesel Engines

EMD Power Products
Cooper-Bessemer & Enterprise Engines
Nordberg

High-Speed Diesel Engines

Caterpillar Cummins
MTU Detroit Diesel John Deere

Ancillary Products

Alfa Laval (heat exchangers/separators)
Allison Transmission (transmissions)
Falk Corporation (reduction gears)
GE Oil & Gas (compression systems)
Hannon (generators)
Ingersoll-Rand (starters)
Lufkin (gears)
Norlake (transformers)
Oil States Industries (marine clutches)
Weschler Instruments (metering products)
Woodward (governors)

Service Locations

Medium-Speed Diesel Engines

Houma, LA
Paducah, KY
Rocky Mount, NC
Chesapeake, VA
Seattle, WA
Tampa, FL

High-Speed Diesel Engines

Houma, LA
Baton Rouge, LA
Belle Chasse, LA
New Iberia, LA
Mobile, AL
Thorofare, NJ
Houston, TX

United Holdings

United Holdings is engaged in the distribution and service of high-speed diesel engines, pumps and transmissions, and the manufacture and remanufacture of oilfield service equipment. United sells OEM parts and services diesel engines and transmissions for on- and off-highway use and provides in-house and in-field service capabilities. United offers a full line of custom fabricated oilfield service equipment, including pressure pumping units, fully tested and field ready. United has long-standing customer relationships with large and mid-cap oilfield service providers, oil and gas operators and producers, construction companies and public utilities.

United provides factory-trained and authorized mechanics to overhaul, service and repair high-speed diesel engines, transmissions and pumps. Based in Oklahoma City, Oklahoma, United has 13 locations across four states in key oil and gas producing regions and major transportation corridors. Oilfield service equipment is transported by tractor-trailer truck. Most major

North American shale oil and natural gas producing regions are within a one-day drive of United's principal Oklahoma manufacturing and remanufacturing facility.

United is the largest off-highway distributor for Allison transmissions, a major distributor for MTU diesel engines in North America, a distributor for Isuzu diesel engines, and the

exclusive distributor of Daimler Trucks for engines and related equipment in Oklahoma, Arkansas and Louisiana.

During 2015 and the majority of 2016, with low crude oil pricing and the resulting decline in North American oil and gas drilling activity in shale formations, the demand for United's service, distribution and manufacturing capabilities has remained depressed.

In early 2015, an estimated 19.5 million horsepower of pressure pumping units was working in North America. By late 2016, the working horsepower in North America had declined to an estimated 9.0 million, with an estimated 4.5 million of the 19.5 million horsepower scrapped, an estimated 2.0 million horsepower available for work and an estimated 4.0 million horsepower stacked, the large majority of which would require major service before being placed back in service.

During 2016, inbound orders for the manufacture of pressure pumping units and other oilfield service equipment were essentially nonexistent. However, during the third and fourth quarters of 2016, with the increase in the price of crude oil, United saw an increase in activity for the remanufacturing and servicing of pressure pumping units, but the distribution portion of the market, including engine, transmission and OEM parts sales and service, remained at weak levels.

Markets

Service and Distribution:

High-speed diesel engines, transmissions, pumps and OEM replacement parts for oilfield service companies, independent drillers, oil and gas exploration and production companies, public utilities, transportation companies, agricultural and construction companies, and municipalities. Drivers are the engines, transmissions, pumps and existing oilfield service equipment used in the exploration and production of the United States oil and gas industry.

Manufacturing: Manufacture of custom fabricated oilfield service equipment, including pressure pumping units, nitrogen pumping units, cementers, hydration equipment and blenders for oilfield service companies, independent drillers, and oil and gas exploration and production companies.

Manufacturer Relationships

MTU Detroit Diesel
Allison Transmission
Daimler Trucks NA
Detroit Diesel
Isuzu
Heil
Tymco
Waukesha
Thermo King

Locations

Manufacturing

Oklahoma City, OK

Distribution and Service

Oklahoma City, OK

Tulsa, OK

Little Rock, AR

Shreveport, LA

Austin, TX

Cotulla, TX

Corpus Christi, TX

Houston, TX

Laredo, TX

Odessa, TX

Pharr, TX

San Antonio, TX

United Holdings technicians work on a new pressure pumping unit with a proprietary sound abatement enclosure at its Oklahoma City, Oklahoma, facility. United Holdings manufactures and remanufactures a wide variety of oilfield service equipment, including pressure pumping units, hydration units, blenders, cementers, mud pumps and nitrogen units.

Board of Directors

Anne-Marie N. Ainsworth¹
Retired President and CEO of the general partner of Oiltanking Partners, L.P. and of Oiltanking Holding Americas, Inc.
Director since 2015

Richard J. Alario^{1,3}
Retired CEO of Key Energy Services, Inc.
Director since 2011

Barry E. Davis^{1,2}
CEO of EnLink Midstream GP, LLC and EnLink Midstream Manager, LLC
Director since 2015

C. Sean Day^{2,3}
Chairman of Teekay Corporation
Director since 1996

David W. Grzebinski
President and Chief Executive Officer of Kirby
Director since 2014

Monte J. Miller^{2,3}
Retired Executive Vice President, Chemicals, of Flint Hills Resources, LP
Director since 2006

Joseph H. Pyne
Chairman of the Board of Kirby
Director since 1988

Richard R. Stewart¹
Retired President and CEO of GE Aero Energy
Director since 2008

William M. Waterman³
Retired President and CEO of Penn Maritime Inc.
Director since 2012

¹ Audit Committee

² Compensation Committee

³ Governance Committee

Officers

Kirby Corporation

Joseph H. Pyne
Chairman of the Board

David W. Grzebinski
President and Chief Executive Officer

C. Andrew Smith
Executive Vice President and Chief Financial Officer

William G. Ivey
President—Marine Transportation Group

Joseph H. Reniers
Executive Vice President—Diesel Engine Services and Supply Chain

Kim B. Clarke
Vice President—Human Resources

Ronald A. Dragg
Vice President and Controller

James F. Farley
Vice President—Industry Relations

Amy D. Husted
Vice President and General Counsel

David R. Mosley
Vice President and Chief Information Officer

Renato A. Castro
Treasurer

Thomas G. Adler
Secretary

Marine Transportation Group

Kirby Inland Marine, LP

William G. Ivey
President

Christian G. O'Neil
Executive Vice President and Chief Operating Officer

James C. Guidry
Executive Vice President—Vessel Operations

Mel R. Jodeit
Executive Vice President—Marketing

John W. Sansing, Jr.
Senior Vice President—Maintenance

William M. Withers
Senior Vice President—Sales

Stephen C. Butts
Vice President—Sales

Patrick C. Kelly
Vice President—Sales

Lyle D. Marshall
Vice President—Sales

Richard C. Northcutt
Vice President—Sales and Horsepower Management

Lester A. Parker
Vice President—River Vessel Operations

Cliff R. Stanich
Vice President—Sales

Thomas H. Whitehead
Vice President—Sales

Carl R. Whitlatch
Vice President and Controller

Kirby Offshore Marine, LLC

William G. Ivey
President

Christian G. O'Neil
Executive Vice President and Chief Operating Officer

James C. Guidry
Executive Vice President—Vessel Operations

John W. Sansing, Jr.
Senior Vice President—Maintenance

William M. Withers
Senior Vice President—Sales

Charles R. Ferrer, Jr.
Vice President—Sales

John T. Hallmark
Vice President—Sales and Strategic Planning

William L. Oppenheimer
Vice President—Maintenance

Christopher T. Palo
Vice President—Engineering

Carl R. Whitlatch
Vice President and Controller

Kirby Ocean Transport Company

William G. Ivey
President

William M. Withers
Vice President

Osprey Line, L.L.C.

John T. Hallmark
President

Charles J. Duet
Vice President

Diesel Engine Services Group

Joseph H. Reniers
Executive Vice President—Diesel Engine Services and Supply Chain

Mia C. Cradeur
Vice President and Controller

Kirby Engine Systems, Inc.

Dorman Lynn Strahan
President

Engine Systems, Inc.

P. Scott Mangan
Vice President—East Coast

Marine Systems, Inc.

Lynn A. Ahlemeyer
Vice President—Gulf Coast and West Coast

Thomas W. Bottoms
Vice President—Midwest

Troy A. Bourgeois
Vice President—Sales

United Holdings LLC

Sterling V. Adlakha
Chief Financial Officer

Ronnie E. Stover
Vice President—Sales

United Engines

David L. Tonne
Vice President—Aftermarket

UE Manufacturing

Gregory L. Culp
Vice President—Engineered Products

Thermo King of Houston

Jason K. Robison
Vice President

Shareholder Information

Annual Meeting

The 2017 Annual Meeting of Stockholders will be held at Kirby's Houston office, 55 Waugh Drive, 9th Floor, Houston, Texas 77007, at 10:00 a.m. (CDT), Tuesday, April 25, 2017.

Corporate Headquarters

Executive Office:
55 Waugh Drive, Suite 1000
Houston, Texas 77007
Telephone: (713) 435-1000
Fax: (713) 435-1010
Web site: www.kirbycorp.com

Mailing Address:
P.O. Box 1745
Houston, Texas 77251-1745

Inquiries Regarding Stock Holdings

Registered shareholders (shares held in owner's name) should address communications concerning address changes, lost certificates and stock transfers to:

Computershare Trust Company, N.A.
P.O. Box 43078
Providence, Rhode Island 02940-3078
Telephone: (781) 575-2879
Web site: www.computershare.com

Beneficial shareholders (shares held in the name of banks or brokers) should address communications to their banks or stockbrokers.

All other inquiries should be addressed to Mary E. Tucker, Assistant Controller, at Kirby's corporate headquarters.

Web Site

For more investor information, as well as information about Kirby, visit Kirby's web site at www.kirbycorp.com.

Independent Registered Accountants

KPMG LLP
BG Group Place
811 Main Street, Suite 4500
Houston, Texas 77002

Common Stock Information

Stock trading symbol—KEX
The New York Stock Exchange is the principal market for Kirby's common stock. As of March 1, 2017, there were 53,957,000 common shares outstanding held by approximately 740 registered shareholders. The number of registered shareholders does not reflect the number of beneficial owners of common stock.

Common Stock Market Price

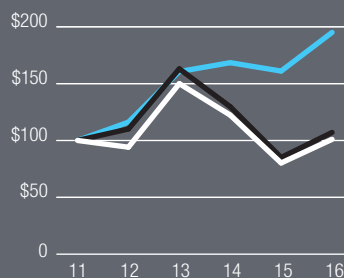
	Sales Price	
	High	Low
2017		
First Quarter (through March 1, 2017)	\$ 73.40	\$ 61.65
2016		
First Quarter	\$ 63.03	\$ 44.63
Second Quarter	\$ 73.25	\$ 57.92
Third Quarter	\$ 64.85	\$ 50.80
Fourth Quarter	\$ 70.90	\$ 55.11
2015		
First Quarter	\$ 82.91	\$ 70.89
Second Quarter	\$ 84.24	\$ 73.31
Third Quarter	\$ 78.72	\$ 59.54
Fourth Quarter	\$ 69.05	\$ 50.42

Financial and Investor Relations

Copies of Kirby's Form 10-K (which is incorporated in this Annual Report) are available free of charge. Either contact Mary E. Tucker, Assistant Controller, at Kirby's corporate headquarters, e-mail Mary.Tucker@kirbycorp.com, or visit Kirby's web site at www.kirbycorp.com.

Comparison of 5 Year Cumulative Total Return

Return on \$100 invested on December 31, 2011, in stock or index, including reinvestment of dividends. Fiscal year ended December 31.



■ Kirby Corporation ■ Russell 2000 ■ Dow Jones US Marine Transportation

	12/11	12/12	12/13	12/14	12/15	12/16
Kirby Corporation	100.00	94.00	150.74	122.63	79.92	101.00
Russell 2000	100.00	116.35	161.52	169.43	161.95	196.45
Dow Jones US Marine Transportation	100.00	110.21	163.97	130.12	84.80	107.17



Kirby Corporation

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www.kirbycorp.com

The M/V Tina Pyne, Kirby Offshore Marine's new 10000 horsepower tugboat, is named after the wife of Joe Pyne, Kirby's Chairman of the Board. The M/V Tina Pyne and the Kirby 185-02, an 185,000 barrel coastal tank barge, were placed in service as an articulated coastal tank barge and tugboat unit in 2016 under a long-term contract.

