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AUGUST 2018

Road Show

McAllister's new Tier 4 tug shows its muscle in Virginia.



Queen of the Roads

McAllister's latest tug brings 6,800-hp of power to Hampton Roads.

The Rosemary McAllister's primary mission is ship assist for the new generation of large containerships and LNG carriers calling at Chesapeake Bay port facilities.

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By Kirk Moore, Associate Editor

On one of her first jobs after arriving in Virginia, the tractor tug *Rosemary McAllister* flexed her 6,770-hp muscle during an escort of a large containership, with Capt. Larry Sullivan running in indirect mode as is often done in Hampton Roads waters.

"The pilot said, 'Sully, you turned the ship.' That's some power there," Sullivan said in the wheelhouse of the newest addition to **McAllister Towing and Transportation Co.**'s fleet.

In the days following its transit from **Eastern Shipbuilding Group** in Panama City, Fla., Sullivan and the crew of the 100'x40' *Rosemary McAllister* familiarized themselves with operating the second Tier 4 tugboat on the East Coast, then got right to work with moving the 1,200' containership.

That's just the size the *Rosemary* and her sistership, the *Capt. Brian A. McAllister*, were built to handle: the newest classes of ultra-large container vessels (ULCVs), with capacities of 14,000 TEUs and over, and the growing U.S. liquefied natural gas (LNG) trade.

Designed by **Jensen Maritime**, Seattle, two more of these tugs are under construction for McAllister, a

153-year-old, fifth-generation family owned company based in New York City. The first two are named for company president Brian McAllister and his wife, Rosemary. The new tugs are the most powerful in McAllister's fleet.

"She's been working every day consistently. With 6,800 horsepower, she's the belle of the ball," said Bobby Clinton, McAllister's Norfolk, Va., port director of compliance and safety.

BIG TUGS, BIG SHIPS

The tugs are McAllister's response to the challenge of ULCVs that are already making regular calls at East Coast

ports with the widening of the Panama Canal, and the prospect of even bigger ships to come. Industry heavyweight **CMA CGM** is looking to build future vessels of 18,000 TEUs to carry cargo between Asia and North America.

Capt. Elliott Westall, McAllister's vice president and general manager in Norfolk, said the *Rosemary McAllister* will equip his team to handle 1,500' ships. The Port of Virginia offers 50' channels, inbound and outbound, and is the only East Coast port with federal authorization to dredge to 55'.

"Our main function is going to be these 1,200-foot, 14,000-TEU ships,"



The new tug is powered by two 3,386-hp Cat 3516E Tier 4 engines.

Patrick Hanna

ROSEMARY McALLISTER SPECIFICATIONS

Builder: Eastern Shipbuilding Group

Designer: Jensen Maritime

Owner: McAllister Towing and Transportation Co. Inc.

Mission: Ship assist and escort

Length: 100'

Beam: 40'

Depth: 16.4'

Maximum Draft: 18'

Main Propulsion: (2) Caterpillar 3516E Tier 4, 3,386 hp at 1,800 rpm

Azimuth Thruster: (2) Schottel SRP 4000FP NiBrAl 2800 mm, 4-bladed propeller with SDN 55 high efficiency nozzle

Bollard Pull: 80 metric tons

Ship's Service Power: (3) Caterpillar Tier 3 C7.1; (2) 118-kw generator at 1,800 rpm with manual parallel, auto start and auto transfer

Speed: 14 knots (free running)

Hull Construction: Steel

Deck Winch: Forward, Markey DESF-48-100 with 558,000 lbs. brake

holding force and full render/recover, 800' of 10" line; aft, Markey TES-40-75 tow winch 2,500' of 2 1/2" wire

Electronics/Navigation Equipment: Radar, (2) Furuno FR8122 w/ ARPA, 4' antenna; radio, (3) Standard Horizon GX2200; auto pilot, Anschutz Pilotstar; depth sounder, Furuno BFF1-UHD and (2) FCV295 w/ transducers forward and aft; AIS, Furuno FA-300 series; GPS, (2) Furuno GP32

Tankage: Fuel, 58,710 gals.; lube oil, 545 gals.; urea for Tier 4 emissions control, 1,000 gals.; potable water, 3,075 gals.; AFF foam, 750 gals.

Ancillary Equipment/Systems: (2) FFS SFP 250x350 pump rated at 5,980 gpm; (2) FFS remote controlled monitor rated at 5,284 gpm with foam injection capability, 1,100-gpm deluge system; full engine room monitoring system with remote monitoring capability at helm engine room, and deck cameras with wheelhouse display

Classification/Certification: ABS Maltese Cross A-1 Towing, Maltese Cross AMS, Escort Service, Maltese Cross A-1 Fire Fighting (FiFi 1)

Delivery Date: June 2018

said Sullivan. Tug operators and pilots are discussing their plans for dealing with the 18,000-TEU ships to come, which will surpass the 1,092' *Nimitz*-class Navy carriers homeported at Norfolk. "It's only a matter of time."

The tug is designed for escort and coastal response. Video cameras fore and aft and on both sides provide Sullivan and other captains with a full arc of view, while other cameras send a continuous feed from the engine room.

The sound-power phone system connects five stations, with an intercom system for general announcements. With joystick and steering controls under his hand, Sullivan can tap foot pedal controls at his seat to activate the **Furuno** radars and **Standard Horizon** VHF radios with drop mics.

The **Markey** class III escort winch can run at three speeds, and during sea trials the *Rosemary McAllister* exceeded her rating with a bollard pull of 82.75 metric tons. Sullivan can start and stop the three **Caterpillar** generators from the wheelhouse controls, and "you can put them in parallel if you need more power to the winch," he said.

Before the *Rosemary* was delivered Sullivan went to New York to learn on the *Capt. Brian A. McAllister*, the first Tier 4 tug on the U.S. East Coast when it was delivered last year. In the Port of New York and New Jersey, "they don't do a lot of indirect like we do here," Sullivan noted, but he got a good feel for the design.

"For escort work we've already done one of these 1,200-footers, and it handled great," he said.



Two Caterpillar 3561E engines and emission control systems, plus pump engines and intakes for the firefighting system.



With its Markey winches the *Rosemary McAllister* achieved 82.75 tons bollard pull in sea trials.



The tug's firefighting system has twin FFS monitors with a combined capacity of more than 10,000 gpm.

Soon after her arrival the *Rosemary* had a starring role in the annual Norfolk Harborfest parade in June, leading the way on the Elizabeth River with both FFS fire monitors going full blast. The remote controlled monitors are crucial



The Tier 4 selective catalytic reduction (SCR) emission control system requires its own space in the engine room.

safety equipment for another mission, escorting liquefied natural gas (LNG) carriers.

With pumps rated at nearly 6,000-gpm each, the deluge system is supplied by 24" water mains in the engine room. Beyond that fire engine-red plumbing is a pair of Caterpillar 3516E Tier 4 engines, each turning 3,386 hp at 1,800 rpm with remote start/stop capability from the wheelhouse. The Cats drive two ABS Schottel SRP 4000FP azimuth drives, spinning NiBrAl 2800 mm, 4-bladed propellers inside SDN 55 high efficiency nozzles.

Also packed into the engine room is the Tier 4 emission control system with its selective catalytic reduction equipment, drawing on a 1,000-gallon urea tank.

Aft is the generator compartment, with the three Cat C7.1 Tier 3 engines.

The new tug came out of the shipyard already compliant with the new Subchapter M towing vessel safety rules. "The wire runs are all metal strapped, its all approved hoses," said Sullivan.

The *Rosemary McAllister* is a whole new chapter in Sullivan's career, which started in the Navy and included serving on hydrofoils before he started running YTB tugs at Groton, Conn. After eight years on Navy tugs and earning an unlimited tug and harbor pilot license, Sullivan joined McAllister and will mark 15 years with the company in September.

"Tugboats have come a long way," he said.

CREW COMFORT

Even with all the throbbing horsepower, the *Rosemary McAllister* is a notably quiet boat. "This thing throws a wake. But when it's running you can go back between the stacks and talk on your phone. It's that quiet," said Sullivan.

Jensen designers included more sonic protection below. A roomy engineer's control room is separate and insulated from the engines. In the galley above, the satellite television can stay on normal low volume with the machinery running.

"The soundproofing on this is a real innovation. It's a big step for crew endurance," said Clinton.

Fitting all of it into a 100' hull is a challenge – some tug designers and builders wonder if they are getting close to the limits of feasibility with current technology. The saga of getting the first two McAllister tugs built



The wheelhouse on the *Rosemary McAllister*, the second Tier 4 tug in the company's fleet.

showed that difficulty.

Horizon Shipbuilding Inc., Bayou La Batre, Ala., delivered the *Capt. Brian A. McAllister* in August 2017. But two months later, Horizon filed for bankruptcy. The *Rosemary McAllister* and a third tug hull that had been started at Horizon were moved to Eastern Shipbuilding in Florida for completion.



The new tug was built with crew comfort in mind, including heavy soundproofing and a large galley area.

In Norfolk, McAllister is investing in a new base for the future. Now located on Pearl Street near the **BAE Systems** and **General Dynamics NASSCO** shipyards, the tug operators are planning for a move next year across the Elizabeth River to the site of the former **JH Miles & Co.** shellfish plant.

Having a tug of the *Rosemary McAllister*'s class is a welcome addition



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to the port infrastructure, said Ashley McLeod, vice president of communications with the **Virginia Maritime Association**.

"This is huge for us," said McLeod. "This addition of the *Rosemary McAllister* is a major improvement to the infrastructure here."

The maritime community is working with political leaders and the Corps of Engineers toward channel deepening and widening to accommodate ULCVs, going to 56' or deeper and widening some reaches to 1,400'.

Next-generation tugs are another step toward guaranteeing both safety and easy access, said McLeod.

"We're committed to making sure they can always get in ... it's hard to believe they've doubled in size in just a few years," she said. "Norfolk traditionally has been the deepest natural port, going back to the earliest history of this country. We're the easiest in,



Kirk Moore

Capt. Larry Sullivan on the *Rosemary McAllister* at the Port of Virginia.

and the easiest out."

At least for East Coast ports, both the new ULCVs and their tugboats may be approaching the upper limit of capability for the foreseeable future.

But there's no question that in its design and execution, the *Rosemary McAllister* is a big leap forward. "I'm confident this platform will be around for a long time," Clinton said.

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