

SHIP ASSIST & ESCORT



CROWLEY[®]
People Who Know[™]

WE PUT A NEW SPIN ON THE TRADITIONAL TUG

Responsive as they are powerful, Crowley's got the most technologically advanced tugs in the world. In fact, our high-tech cycloidal propulsion tugs are so efficient, two of them do the work of three traditional tugs. All Crowley vessels have pilothouse-controlled engine rooms fully equipped with the latest navigational and communications technology. And with our own marine engineering and design firm, you can be sure our tugs will always be equipped with the best technology available – today and tomorrow.

WE KNOW OUR WAY AROUND THE HARBOR.

Crowley began assisting ships in San Francisco Bay back in 1914 with a fleet of wooden steam-powered tugs. Now we operate a wide variety of vessels, including conventional twin-screwed high-horsepower tugs, z-drive tractor tugs and the largest fleet of cycloidal propulsion tractor tugs in North America. We assist ships of all kinds, including oil tankers, automobile carriers, bulk chemical and container ships – or anything else that needs help docking and undocking in the harbors of Seattle, North Puget Sound, Tacoma, Los Angeles/Long Beach and San Diego.

In 1995, we teamed up with Alyeska Pipeline Company through their SERVS unit in Alaska to create the most comprehensive spill prevention and response operation in the world. Our Prevention & Response Tugs represent the “best available technology” to keep Prince William Sound and Valdez harbor safe from the hazards of oil transportation.

We've earned an impressive reputation for our accomplishments. Whether it's an emergency situation, like stopping the *Chevron Mississippi* when a fishing boat ran its nets across tanker lanes, or carrying out a routine escort, such as bringing the aircraft carrier USS *Carl Vinson* to its home port after its tour of duty, we've got the experience and the technology to get the job done safely and efficiently.

A PERFORMANCE RECORD THAT'S THE BEST IN THE INDUSTRY.

You work hard to stay on schedule. We work hard to keep you on schedule. That's why when you're ready to go, you can count on Crowley to be there for you.

A SAFETY RECORD THAT'S UNMATCHED.

We do everything possible to make sure your vessels are safe. That's why each and every one of our tugs is ISO/ISM Certified. But that's not all. We also make sure that we get the job done in the safest way possible. Every ship in every harbor has its own safety protocol. In 2000, Crowley received the William M. Benkert Award by the U.S. Coast Guard for excellence in marine environmental protection. And more recently, we were commended for outstanding performance for our work with SERVS in Prince William Sound. We're proud of our safety record, which led OSHA to give us an incident rate of .9 – well below the performance measure. You can rely on Crowley to protect your vessel as well as our environment.

TECHNOLOGY IS ONLY AS GOOD AS THE PEOPLE WHO USE IT.

Just like with our tugs, we set our standards high when hiring employees. From our seamen to our engineers and captains, we've got the most seasoned professionals in the industry. In fact, the average length of service for all our captains and first mates is 12 years. Our expert dispatchers are also a vital part of the team. People who know Crowley know our employees have the expertise needed to get the job done right.

“We concentrate on quality, and so does Crowley. That's why we use them to provide our ship assist and escort services.”

Captain Graham Westgarth • Senior Vice President • Marine Operations • TeeKay Shipping



"Our broad base of customers demand superior service for the docking and undocking of their vessels. With Crowley we know they will get the best equipment and quality service every time."

Peter Whittington • President • Transmarine Navigation



WEST COAST WARRIORS

Response Class. Outperforms any tug in Puget Sound.

The *Response* was designed to exacting standards for the escort and assist of oil tankers in Puget Sound. This 129.5' tug features twin Voith Schneider cycloidal propellers and two CAT 3608 engines. Its high-lift, streamlined hull allows it to meet the high speed escort requirements of tankers operating in Puget Sound. With a direct bollard pull of 150,000 pounds, the *Response* is one of the most powerful, sophisticated tugs around.



Protector Class. An all-around performer.

The two 120' Protector Class tugs were the first to be built and designed especially for Crowley. They feature twin Voith Schneider cycloidal propulsion units and two CAT 3606 engines that produce 5,500 Bhp. They're capable of speeds of up to 14 knots and have a direct bollard pull of over 120,000 pounds. Employed for both ship assist and escort work, their innovative stern hold-down arrangement lets the operator quickly switch from escort to docking mode. They're also equipped for fire-fighting.

Harbor Class. Working harder and faster than any conventional or z-drive tug.

These six vessels are each 105' long and generate 4,800 Bhp from two CAT 3616B engines. They've got a direct bollard pull of 111,500 pounds. And with twin Voith Schneider cycloidal propulsion units and a unique hydro-foil-shaped skeg, they can go from full power ahead to full power 90 degrees in just 11 seconds. All this technology-driven muscle allows these tugs to change the amount of power used during an assist without changing their own position. They're the true ship assist workhorses.



Sea Robin and Invader Classes. The most powerful twin-screw tugs on the West Coast.

These twin-screw tugs measure from 126' to 136' in length and are equipped with powerful engines which generate 5,000-7,200 Bhp. Although the tugs are mainly used for ship assist and escort assignments, they're fitted with winches so they can be used for emergency rescue towing as well.

ALYESKA'S ANGELS

Prince William Sound Class. The most powerful enhanced tractor tugs in the world.

Specifically engineered for escort work in Prince William Sound and spill response in Valdez, these 153' tugs are all muscle. With twin Voith Schneider cycloidal propulsion units and two CAT 3612B engines generating 10,192 Bhp, they can go as fast as 16 knots with a direct bollard pull of 210,500 pounds. They're also equipped with an oil containment boom, spray dispersant arms, Desmi skimmers and over 70,000 gallons of recovered oil storage for spill response.



"We rely heavily on Crowley to help us prevent and respond to oil spills in Prince William Sound. They have achieved an impressive operational and safety record in a demanding and unforgiving environment."

**Ed Morgan • Manager - Ship Escort Response Vessel System (SERVS) •
Alyeska Pipeline Service Company**

Alert Class. Ready for anything.

All three z-drive tractor tugs are used in combination with the Prince William Sound Class for ship assist and escort work in Valdez harbor. They're powered by twin CAT 3612B engines with two azimuthing thrusters, generating 10,192 Bhp and a direct bollard pull of 300,000 pounds. They're also equipped for firefighting, emergency response and oil spill recovery and can accommodate up to 16 crewmen in an emergency situation.





**CROWLEY
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For more information, contact our Director of Sales:
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Liner Shipping • Worldwide Logistics • Project Management • Ship Assist & Escort • Alaska Fuel Sales & Distribution •
Energy Support • Ocean Towing & Transportation • Salvage & Emergency Response • Petroleum & Chemical Transportation

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