

# The Marine Division Powers Forward



The present and future of the FDNY Marine Division fleet—the recently commissioned *Three Forty Three*.

To fully understand the evolution of FDNY Marine Operations, one must look at a snapshot of the past, present and future challenges faced within the New York City Port community. History has shown that great cities were built on accessible harbors, to easily move goods to support the local economies. Years ago, these products were traded in bulk and warehoused on the waterfront to then be loaded and transported over land to their final destination.

Hence, FDNY's Marine Operations fleet was designed to provide a water resource that would arrive and spend hours to days on-scene of the ensuing fires that erupted in and around these warehouse facilities. The fleet served the Department well and proud for decades. However, the mechanism of transporting goods evolved to containerization. Time equals money and the days of waterfront bulk goods began to wind down.

With the September 11, 2001, terrorist attacks, the need to concentrate on protecting the infrastructure of the country rose to the forefront. That day, the fireboats played a vital role. Because much of the hydrant system was destroyed in the attack, the boats were used to supply water to land-based Firefighters so they could battle the fires. Additionally, they transported many civilians to safe areas, away from lower Manhattan. This incident emphasized that first responders need to adapt, be versatile and expand their responsibilities into areas that until now would have been unimaginable.

FDNY Marine Operations was poised to embrace this change. Indicative of this is the *Marine Operations Strategy* document—a collaborative effort between FDNY and the Harvard Business School—which sets out a clear and concise means to address an all-hazards approach. Much of this article is excerpted from the above-mentioned document, issued in December 2010.

## FDNY Marine Operations' mission

FDNY Marine Operations personnel are charged with protecting lives and property within the Port of New York and New Jersey and surrounding regions by responding to fires, water rescues, hazardous material incidents, medical emergencies and maritime disasters. In collaboration with port security partners, Marine Operations advances public safety through incident prevention, harbor protection and safety education. The robust and timely response of Marine Operations protects the Port of NY/NJ



The *John D. McKean* was replaced with the *Three Forty Three*—a high-performance, 140-foot fireboat that features the Harbor's inter-agency command and control platform.

and strengthens homeland security efforts.

Recognizing the roles it performs in port security, FDNY Marine Operations requires response resources that can quickly ramp up or down to a variety of dangerous incidents. Accordingly, FDNY has invested in maritime assets that are **fast, strong and agile**.

The fleet of fireboats is a combination of fast and light fireboats for rapid water rescue and large and strong boats to manage extreme events. This permits Marine Operations to develop an agile response strategy to both fires and emergencies. With these capabilities, the mission of Marine Operations applies to all types of incidents and extends through all phases of hazard prevention and protection to response and recovery mitigation.

### Marine Operations Tiered Response

To ensure the optimal availability and distribution of response resources, FDNY established a Marine Operations *Tiered Response* system. *Tiered Response* is a system of layered resources, with each layer containing incrementally higher levels of special response capabilities. This system enables the Department to rapidly deploy the appropriately scaled mix of specialty units in a manner that is responsive to an incident's escalation or recession, while also maintaining adequate capabilities to manage additional incidents and coverage across the entire Harbor. This *Tiered Response* adds needed flexibility to FDNY's response.

By training Marine Operations personnel with a variety of response capabilities at incremental proficiency levels and strategically locating fireboats, the *Tiered Response* system maximizes FDNY's capabilities for response in a manner that is highly effective, economically efficient and sustainable over time.

#### Class 1--Specialist

The top tier includes the Department's high-performance fireboats, which range in length from one 65-foot (*The Bravest*) to two 140-foot (*Three Forty Three* and *Fire Fighter II*) fireboats. High-performance fireboats feature specialized equipment for water and ship rescue, firefighting, medical treatment, hazardous material detection, mitigation and technical decontamination. This class of large high-performance fireboats has the capacity to manage and control some of the worst water-borne disasters imagined. The 140-foot fireboats provide the only chemical, biological, radiological and nuclear (CBRN) command and control platform in the Harbor outside of the military. The speed, power and capabilities of these firefighting and rescue ships are impressive. The 140-foot fireboats are unique and the largest everyday response platforms in the Harbor. They possess the ability to pump up to

50,000 gpm.

#### Class 2--Technician

The rapid response tier features a 33-foot fireboat and 31-foot medical boats. At any time, FDNY has at least six boats available in the water. Combined with the larger high-performance fireboats, these boats get underway first to make rapid rescues or extinguish small fires. For example, when a large recreation boat that was docked in Hoboken, New Jersey, caught fire, Marine Operations used a rapid response fireboat, whose smaller size allowed it to navigate more effectively within the marina, stopping the fire from spreading to the pier or other boats.

#### Class 3--Operations

Marine Operations' *Tiered Response* at the operational level is composed of more than 3000 land-based Firefighters who received special training in marine firefighting. This allows these land-based Firefighters to be deployed with the fireboats for ship-board firefighting or to operate one of FDNY's 25 flood rescue boats during coastal storms or hurricanes. Firefighting units located near the waterways are equipped and trained for cold-water surface and surf rescues.

Traveling at more than 40 mph and arriving quickly, rapid response fireboats can pump 1000 gallons of water a minute, which is equivalent to a single land-based engine pumper. These rapid response fireboats can extinguish small fires or keep other fires from spreading.

During firefighting operations, FDNY's high-performance fireboats also can address a ship's stability by using foam concentrate and/or Purple K dry chemical extinguishing agent in lieu of water to smother petroleum-based fires. This reduces the risk of subsequent ship instability caused by an excess application of water.

*The ability to command and respond to the dynamic threat environment is critical to protecting the Port of New York and New Jersey, which remains a viable and significant terrorist target.*  
--General John P. Abizaid, Army (retired)

#### Responding to CBRN and haz-mat incidents

In addition to life safety issues, CBRN and hazardous materials (haz-mat) contamination can cripple New York City's transportation and economic systems and, if contamination is not contained, cause cascading effects. Despite advances in security and deterrence, it is essential that the Harbor is focused not only on prevention, but also on resilience after an incident.



The *Kevin C. Kane* (above) has been replaced by the 65-foot fireboat (right photo) that features foam and Purple K and thermal imaging capabilities.



The high-performance, 65-foot fireboat, *The Bravest*, features 50-mph, triple 1000-hp jets and pumps 6000 gpm.





Rapid Response, 31-foot medical boats (left), with twin outboards, drop bow and shallow draft, have replaced the smaller boats (right) that normally would respond to such incidents. Carrying defibrillators, these boats quickly transport personnel to provide oxygen and other basic emergency medical care.

Responding to haz-mat incidents requires specialized training, equipment and protective gear to safely enter contaminated areas or hot zones. FDNY Marine Operations, along with land-based FDNY Haz-Mat Operations, provide unique capabilities to Harbor partners. FDNY's high-performance fireboats have crew and patient cabins with full military CBRN filtration systems to allow the boats to safely enter and operate in hot zones.

Each FDNY vessel carries chemical protective gear, allowing Firefighters to make rescues in the contaminated areas and then transport victims, while performing gross or technical decontamination on FDNY's vessels. Additionally, FDNY crews can mitigate hazards on the ships. In 2009, FDNY was part of the integrated response to an explosion on the vessel *M/T Sichem Defiance*, a chemical tanker. FDNY ensured the safety of all partners and monitored the fire risk as the chemicals were removed from the damaged vessel during a 20-day incident duration.

### Command and control platforms

In a larger incident, the command structure will require a unified command, involving many individuals from different partner organizations; i.e., United States Coast Guard and Port Authority of New York and New Jersey. Depending on the incident, it could be vitally important that an element of command presence be housed safely on a boat, such as in incidents where the damaged vessel is pulled downstream by strong currents. (See "Airbus in the Hudson Results in a Happy Ending," by Deputy Chief James D. Daly, Jr., and Battalion Chief Michael Buckheit, in the 1st/2010 issue of *WNYF*.) The military-grade filtration system provides the only safe environment capable of holding a floating 40-person unified Command Post. Without these resources, the partners would have less operational collaboration because all forward commands would operate independently on their own vessels.

The command center offers Blue-Force tracking capabilities to track fire department, law enforcement and Coast Guard vessels in the Harbor. (AIS--Automated Information System--which the larger vessels use, shows speed and course and identifies the vessels. Blue-Force puts AIS in a restricted mode, permitting FDNY to see all vessels on a screen, but prevents those not in the mix from seeing such equipped vessels.) The command center also has multiple agencies' channels to receive and broadcast voice, video and data feeds to ensure that decision-makers have access to the best situational awareness available for commanding at a major maritime incident.

### Safety monitoring

FDNY Marine Operations plays a vital role in monitoring and stand-by planning during recovery operations to protect recovery

*The public can depend upon FDNY Marine Operations to work with its network of Harbor partners to protect the Port of New York/New Jersey and its waterways.*

--FDNY Commissioner Salvatore J. Cassano

workers and the public from undue risk or injury. FDNY Marine Operations minimizes this risk by leveraging the expertise of Marine and Haz-Mat Operations.

Since every shipboard incident has the potential for a confined space component (due to the composition and configuration of ship interiors), Firefighters assigned to respond to incidents occurring within the City's waterways are trained to safely operate under the unique conditions they will face once shipboard.

### Reducing or dissipating vapor clouds

While the initial explosions of a chemical accident or attack can be destructive, the subsequent vapor cloud poses an even greater danger. It could move toward New York City's eight million inhabitants and visitors. FDNY controls the only boats in the Harbor capable of pumping 50,000 gallons of water per minute to dissipate the vapor cloud. Without this vital capability, the Harbor partners could rely only on the wind and weather conditions to dissipate the cloud. In the case of an oil spill, fireboats can assist in its containment and perhaps use their large monitors to apply material to break up the spill. Fireboats can play a significant role in helping the Coast Guard manage the incident and avert an environmental disaster.

FDNY Marine Operations is committed to remaining an active partner on the water and providing the broader New York community with critical life safety and firefighting resources. FDNY takes this duty seriously because this responsibility is not just professional, but personal. FDNY Firefighters and their families--just like many other New Yorkers--rely on the ferries for transportation, beaches for relaxation and commerce from shipping for economic prosperity. It is important that all New Yorkers and visitors know that they can depend on the FDNY.

The Department is dedicated to leveraging its unique capabilities in protecting America's critical infrastructure and ensuring homeland security. Marine Operations' balanced *fast, strong and agile* strategy allows FDNY to respond quickly and appropriately to incidents ranging from possible drownings to burning oil tankers. Since 9/11, the FDNY has invested in the appropriate boats, tools and personnel needed by Marine Operations to address the ever-changing national security threat and ensure Harbor-wide resilience.

The FDNY's preparedness goals will continue to be realized through concentrated efforts to adapt to changes in the threat environment, reinforce core competencies, maintain a steady state of operational readiness, reduce the risks to the City and work in concert with Harbor partners.



### About the Authors...

*The FDNY Chiefs who were instrumental in developing the Marine Operations Strategy include Assistant Chief Joseph W. Pfeifer, Chief of Counterterrorism & Emergency Preparedness; Deputy Assistant Chief William C. Seelig, Chief of Special Operations Command; Battalion Chief James C. Dalton, Chief of Marine Operations; and Battalion Chief Michael Buckheit, Marine Battalion.*