

Chairman's Corner

Welcome to the OPA 90 Forum Newsletter! JULY 2026

In our last newsletter, I noted that the maritime industry is entering a period of significant transition, with established rules and response systems being tested by new technologies and new operating realities. The articles in this issue reinforce that point. Although they address different subjects, together they raise a common concern: innovation is moving faster than the regulatory and operational frameworks designed to support safety and response.

The first article considers what happens when a serious casualty involves a vessel using alternative fuels rather than conventional oil. For decades, OPA 90 has provided a clear and familiar structure for response: defined responsibilities, pre-arranged planning, established response resources, and funding support. But as vessels increasingly turn to LNG, methanol, hydrogen, ammonia, and other fuels, we are forced to confront an uncomfortable question: will America be protected in that structure as intended when the next major casualty occurs? The article's message is straightforward. The issue is not simply the fuel itself, but whether the response community will have the same clarity on authority, funding, and preparedness that has long existed for traditional oil incidents.

The second article, on hydrogen as a marine fuel, highlights both the promise and the challenge of the energy transition. Hydrogen is attractive because of its emissions potential and the broader push toward decarbonization. Yet it also introduces practical complications in vessel design, storage, safety, and shoreside infrastructure. The larger takeaway is that cleaner fuels do not eliminate risk; they change its nature. As the industry adapts to new propulsion systems, the supporting safety and emergency response frameworks must evolve as well.

The third article examines another area where clarity is essential: command and control during a shipboard fire alongside. The case discussed raises important questions about who should direct operations when municipal firefighters, Coast Guard personnel, and specialized Salvage and Marine Firefighting providers are all engaged in the same emergency. Expertise matters, but it can only be fully effective when lines of authority are understood in advance. If those lines remain uncertain during a casualty, outcomes may suffer.

Taken together, these articles point to a broader challenge. The framework built in response to yesterday's defining incidents may not be fully equipped for tomorrow's casualties. That does not

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diminish the value of OPA 90 or the systems it created. Rather, it reminds us that strong frameworks must be revisited as the operating environment changes.

That same message was central to presentations delivered earlier this month. Tim Williamson spoke at the International Tug and Salvage Conference in Sweden, and I had the opportunity to present at the NAMEPA Safety at Sea Seminar, as well as at the AMVER and Bankert Awards program in Washington, DC. In both forums, we emphasized concern that OPA 90 SMFF regulations may, in practice, be circumvented as propulsion systems shift to alternative fuels. If the assumptions behind our current response requirements no longer match the vessels now entering service, then an important gap may emerge.

It is equally important to recognize what continues to work well. The USCG's AMVER program remains one of the finest examples of maritime cooperation in support of safety at sea, connecting vessels worldwide to aid mariners in distress. The Bankert Awards similarly honor excellence in marine environmental protection and response. As our industry evolves, these programs deserve continued recognition and support. Our task is clear: to embrace innovation while ensuring that the systems protecting life, property, and the marine environment keep pace.

Best regards,
Doug Martin
Chairman OPA 90 Forum



New Members - Brian Hotard of Lockton, Inc., Strategic Risk Advisor

M/V Mega Problem?

The Casualty OPA90 Wasn't Built For

By Tim Williamson, Vice President, Donjon Marine

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For two months this spring, the burnt-out hull of the 77,712 DWT Russian Liquefied Natural Gas (LNG) carrier **Arctic Metagaz** drifted across the central Mediterranean. A Ukrainian sea drone had detonated against her side in early March, the crew abandoned ship, and she traced a slow, uncontrolled arc through Maltese waters, Italian waters, and finally into the Libyan Search and Rescue (SAR) zone. Towlines parted in heavy weather. Salvors, taking heroic actions, were forced off the hull. By the time a Libyan tug finally got a bite and anchored her eighteen nautical miles off Benghazi, much of her LNG cargo had likely boiled into the atmosphere, and authorities were hoping to lighten the remaining fossil fuel before the storms came back.

It is the kind of casualty no government wants. It is also, for those of us who spend our working lives inside the Oil Pollution Act of 1990 (OPA 90), a useful thought experiment.

Let's reimagine that the casualty occurs here in the waters of the United States.

It is the same type of ship, the same damage, the same two-month drift. But the casualty now plays out fifty nautical miles off a US coast. For the sake of argument, the vessel is dual fuel: it is powered by a 30,000-KW (kilowatts) (38,000-HP [horsepower]) Mitsubishi steam generator fueled by either boil-off from the 130,000-M3 of LNG cargo or 900-MT of HFO (heavy fuel oil) and diesel fuel.

Assume, also for the thought experiment, that none of the vessel's propulsion fuel or cargo qualifies as "oil" under OPA 90. The phone rings at the United States Coast Guard (USCG) Sector Command Center. The National Response Center (NRC) call goes out. The Federal On-Scene Coordinator (FOSC) stands up. And then someone in the room says the quiet part: this isn't an OPA 90 case.

What happens next?

The reflex that doesn't work

Responders have exercised and built up our muscle memory around a clean regulatory framework. A casualty involving oil triggers a designated Responsible Party (RP), a strict



liability standard with statutory caps, a vetted Vessel Response Plan (VRP), a pre-identified Qualified Individual (QI), contracted Oil Spill Removal Organizations (OSRO) already on call, and, probably most importantly, the Oil Spill Liability Trust Fund (OSLTF), which stands behind the responders with a backup funding source in place. We know what we are doing because Congress, in 1990, built a framework that tells us what to do.

Strip out the oil, and the structure loses its foundation and the ability to make forward progress on resolving the situation.

There is no Responsible Party (RP) in the OPA 90 framework for non-oils, which defines liabilities, funding mechanisms, and pre-established response obligations. There is no Certificate of Financial Responsibility (COFR) on file, because none was statutorily required for the cargo. The VRP is not required. The OSLTF may not be available as the primary funding mechanism - its authorities are tied to oil pollution response. The National Pollution Funds Center (NPFC), our reliable backstop, is suddenly out of the room. We are not, of course, completely without statute. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) exists. The Clean Water Act (CWA) Section 311 addresses hazardous substances. The National Contingency Plan (NCP) continues to govern federal response coordination, and the FOSC retains authority under the NCP regardless of the molecules involved.

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OPA 90 also created the modern Salvage and Marine Firefighting (SMFF) construct, with pre-identified providers and contractual arrangements already in place before the casualty occurs. This construct disappears without the umbrella of OPA 90.

Five fuels, five different problems.

The shape of the gap depends on the molecule.

If the fuel is LNG/Liquefied Petroleum Gas (LPG), the immediate hazards are cryogenic burns, brittle-fracture damage to the hull, and, if confinement gives way, a vapor cloud whose ignition footprint is measured in miles. But LNG and LPG do not “spill” in the way oil spills. It boils. It rises. It disperses. LNG and LPG have a very low solubility; thus, cleanup, in the OPA 90 sense, is largely the wrong word. What you need is a stabilization plan, a vapor dispersion model, and a place to put a wounded hull. The Pipeline and Hazardous Materials Safety Administration (PHMSA) governs onshore terminals under 49 CFR Part 193. USCG governs waterfront facilities under 33 CFR Part 127. Neither regime gives the FOSC the equivalent of the OSLTF for the at-sea casualty.

If the fuel is ammonia, the conversation changes. Anhydrous ammonia is a CERCLA hazardous substance with a 100-pound reportable quantity. It is acutely toxic in air at single-digit ppm (parts per million). A release alongside a populated coastline is a public health emergency before it is an environmental one. We have authority - Section 311 of the CWA and the CERCLA framework give the FOSC a seat - but we do not have OPA 90's pre-positioned response plans, contracted responders, or advance funding. We are left building the response architecture in real time.

If the fuel is methanol, the casualty looks different again. Methanol is a polar solvent that is miscible with water. It dissolves into the water column rather than floating on it. The booms in the OSRO's warehouse are designed for floating material. Methanol is a CWA hazardous substance and a CERCLA-listed substance, and it is toxic, but the response toolkit that a generation of practitioners is trained on is partly inapplicable from the first hour.

If the fuel is **hydrogen**, the response is again different. Hydrogen is stowed both as a gas and a cryogenic liquid. Upon release, it will enter its gaseous state and, like LNG/LPG, will have very low solubility.



Nuclear propulsion is forthcoming. Regulators are reviewing and approving in principle (AiP) Small Modular Reactors (SMR) for containerships within the 15,000 TEU (Twenty-foot Equivalent Unit) range. In the last year, the USCG established the Maritime Nuclear Policy Division. The Division will serve as the USCG's central point of contact for developing and implementing policies governing the safe and secure integration of nuclear technology.

Five molecules, five different responses, one common feature: OPA 90 doesn't cover them.

Addressing the Mega Problem

If the *Arctic Metagaz* drifted into US waters tomorrow, this is the short list of questions our community would have to answer.

- 1. Who is financially responsible?** OPA 90 provides a clearly defined liability structure, backed by COFR requirements and the OSLTF. An alternative fuel casualty may not.
- 2. Who funds the first 72 hours?** Without immediate access to the OSLTF, federal responders and contractors may face delays while agencies determine funding authorities and reimbursement mechanisms. Existing Protection and Indemnity (P&I) Club structures may ultimately respond, but they do not provide the same level of immediate federal funding and response architecture as those created under OPA 90.
- 3. Who is already contracted to respond?** OPA 90 created an ecosystem of pre-contracted OSRO and SMFF capability. Equivalent standing arrangements for casualties involving ammonia, LNG, LPG, or methanol are inconsistent or nonexistent.

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4. Where does the casualty go? Places of refuge remain politically difficult, even in conventional oil casualties. A damaged LNG or ammonia carrier would raise exponentially harder public safety and port-acceptance questions. It is hard to imagine any US port volunteering. The International Maritime Organization (IMO) Guidelines on Places of Refuge are non-binding. The Captain of the Port (COTP) has authority to direct movement under 33 CFR Part 160, but directing a hull is not the same as funding its reception.

The casualty that builds the next framework?

OPA 90 was a regulatory response to a casualty. It did not exist on March 23, 1989. It existed because Exxon Valdez required it to exist. The framework we know is, in that sense, a memorial.

This piece is a thought experiment, but the question is real. If the Arctic Metagaz occurred or drifts into our waters, what do we do, and who, exactly, do we hand the bill to? The decarbonization push is putting LNG, LPG, methanol, and ammonia into hulls faster than the response regime is catching up.

The OPA 90 community understands better than anyone what happens when a major casualty exposes a regulatory gap. We built an entire response architecture around oil because experience forced us to.

The transition to LNG, LPG, methanol, ammonia, and other alternative fuels is outpacing the supporting response framework. The question is no longer whether a major alternative-fuel casualty will occur. The question is whether we will build the legal, operational, and funding architecture before it does.

Important to consider - please send comments to RFredricks@OPA90Forum.org.

Hydrogen as a Marine Fuel

Patrick .J. Keenan, President, Phoenix International Holdings, Inc.

Hydrogen (at standard temperature and pressure) is a gas of diatomic molecules with formula H_2 . It is colorless, odorless, non-toxic, and highly combustible.

Hydrogen is generated by electrolysis (splitting water into its constituent components) using electrical power. When this electricity is produced by renewable sources, the resultant hydrogen gas is defined as “green”.

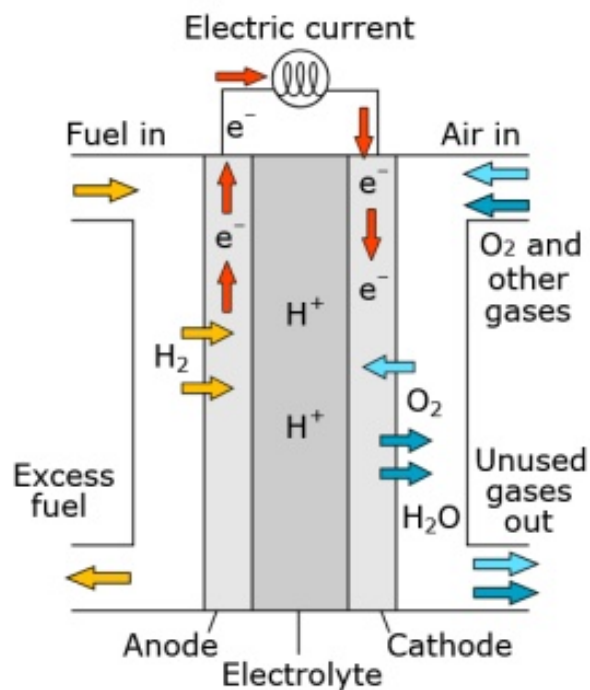
Fuel cells are used to convert the chemical energy in hydrogen gas into electrical energy to power a ship. A basic fuel cell schematic is provided in the figure below (courtesy of Wikipedia). Summarizing, first water is split into hydrogen and oxygen using electrical energy, and then hydrogen (fuel) and oxygen (oxidant) are recombined in a fuel cell to yield water and electrical energy, with entropy increased and energy lost along the way.

Individual fuel cells produce relatively small electrical potentials, so multiple cells are used to create sufficient voltage to meet marine power requirements. In addition to DC electricity, fuel cells produce water vapor, heat, and, depending on the oxidant (pure oxygen or air), small amounts of nitrogen dioxide. They are thus considered to be zero or near-zero emission devices. The energy efficiency of a fuel cell is between 40 and 60%, greater if waste heat is captured.

While hydrogen offers high energy/mass, its energy/volume is much lower than that of diesel fuel. Compressed hydrogen gas requires 6 times the volume of diesel fuel to produce the same amount of energy. Even if significant energy is expended to liquefy hydrogen, the liquid will require 4 times the storage volume of diesel to produce equivalent energy. High volume requirements for hydrogen storage and stacked fuel cells present significant challenges to designing hydrogen-powered vessels.

Additional complications are the safety requirements for storing a significantly more combustible fuel than diesel (hydrogen requires 10 times less energy to ignite than diesel), the production of DC electricity, which in many cases must be inverted, and immature storage and distribution infrastructure.

Fuel Cell Schematic



Despite these difficulties, the ultra-low emissions of hydrogen-powered ships have led to investment in their design and construction. As of this writing, there are approximately 50 hydrogen-powered vessels in service worldwide. Most of these are small pilot projects, domestic ferries or recreational craft. However, in March of this year, the first hydrogen-powered cruise ship, the 54,300 GRT *Viking Libra*, was launched in Italy.

There are significant obstacles to powering ships with hydrogen. Some intrepid operators are up to the challenge.

WHO'S IN CHARGE?

Fire on Board a Vessel Alongside, Municipal Fire Department or the SMFF Provider?

Alfred J. Kuffler¹

In *Trident Seafoods Corp. v. City of Tacoma*², Trident as owner of the fishing and processing vessel the F/V Kodiak Enterprise sued the City for the alleged inappropriate forced air ventilation techniques used by its fire department, which allowed a fire in the forward section of the ship, which it claims was under control, to spread, ultimately rendering the vessel, valued at \$185,000,000, a total loss.

The facts Trident pleads present yet another in the growing litany of cases where municipal fire departments, notwithstanding that they have the duty to respond to shipboard fires on vessels alongside piers within their jurisdictions, find themselves woefully untrained and unprepared to act effectively.

However, Trident's complaint raises another vexing question - When the municipal firefighters are the first to arrive on board and have begun the efforts to suppress the fire, but the Salvage and Marine Fire Fighting (SMFF) provider then arrives with his expertise in fighting shipboard fires, who is in charge? Who has the final word on how to fight the fire? Remember that it took the enactment of OPA 90 to establish that among all the stakeholders in a spill response, final authority rested with the Federal On-Scene Coordinator (FOSC).

In this case, the Fire Department (FD) arrived within about ten minutes after receiving the call for assistance, and eventually a FD battalion chief took on the role of Incident Commander. Eventually, the Coast Guard established an Incident Command.

While the parties agree that Resolve, the SMFF provider, arrived on scene about three hours after the Fire Department and that Resolve "assumed the role of advising and assisting," the FD had continued in their role for the duration of the event. But thereafter they sharply diverge in the recitation of events. Trident claims (1) that the FD on its own ignored Resolve's advice concerning ongoing action and (2) that implementation of forced air ventilation precipitated the spread of the fire. The FD claims the fire had already spread, but most importantly asserts that it deployed the ventilation "after lengthy discussion and in consultation with others in the Unified Command Center, including Resolve...."³ Trident, though, claims that the FD did not "fully advise" the Coast Guard.

Whatever the facts may ultimately prove to be, several issues spring from the pleadings alone.



Why did Resolve, as the entity with the expertise, remain in a subordinate position? The whole point of requiring an SMFF provider in the VRP is to assure that a source of expertise is promptly available.

If, in fact, the FOSC signed off on the ill-fated ventilation plan, what led that official to do so? It seems difficult to accept that the FOSC accepted the ventilation plan over the objections of the experts in marine firefighting. So, was it concern over the authority to override the plans of the municipal fire department - perhaps an issue about the reach of federal versus state roles, particularly where the Area Contingency Plan may, as in New York, leave firefighting on the piers to the states?

If the latter is the case, then it is suggested that to further ensure the nation has a comprehensive plan for responding to maritime casualties of all stripes, the Coast Guard amend its regulations to clarify that once the SMFF provider appears, it is the one directing the response, subject to the Incident Command System (ICS) structure. If such regulations appear beyond the Coast Guard's authority, then the relevant statutes should be amended to clarify the lines of authority in the circumstances this and other cases have presented.

¹ Senior Counsel. Montgomery McCracken Walker and Rhoads LLP-Philadelphia< Pa.

² Superior Court for Pierce County, Washington, Superior Court for Pierce County, Washington Case no. 26-2- 07308-8

³ The NTSB report of its investigation does not discuss how the fire spread from a forward compartment engulfing the vessel. Nor does it mention the ventilation issue.

UZMAR Awards Donjon Marine “Salvage Company of the Year” for Francis Scott Key Bridge Channel Clearing in Baltimore, Maryland.

Donjon Marine was awarded this prestigious recognition for its outstanding success in wreck removal following the allision of the container ship M/V DALI into the Francis Scott Key Bridge incident. The company successfully managed to reopen the Fort McHenry federal channel and the Port of Baltimore with zero workplace accidents in a record time of only 77 days – thereby preventing disruption in the global supply chain and supporting the Port of Baltimore workers and their livelihoods.

Quoting UZMAR: “Following the award ceremony, a statement from UZMAR Shipyard emphasized the importance of honoring teams that elevate safety, leadership, and operational standards to the highest levels at sea. The company reiterated its commitment to supporting projects that enhance the global excellence focus within the industry and maritime safety. Source: SeaNews Turkiye.



Accepting award in photo above, Tim Williamson, Vice President, Donjon Marine.
[Photo by Deniz Haber, 25May2026, Sweden]

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