

Marine Flares— “It’s Not the Future.”

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Pyrotechnic distress signals are old technology, expensive to dispose of, and a toxic hazard, and boaters are encouraged to transition to newer eVDSD technologies.

When you buy a big new piece of furniture, often the manufacturer will come and pick up your old piece—this process makes sense to us. However, when you buy pyrotechnic marine flares, and they expire, there is no order of operations for safe and proper disposal. Community events are held sometimes, but that isn’t a guarantee that everyone attends and drops off expired flares. The coalition behind these events urges residents to stay alert for future temporary collection events and consider switching to reusable eVDSDs

The electronic flare is a direct replacement in the movement to remove all flares from recreational boats after the negative results of disposal and safety, in addition to the toxic nature of improper disposal. An estimated 174,000 outdated flares are generated yearly by California recreational vessels.

“There are billions and billions of flares that just pile up on boats that can’t go anywhere,” said Engineer and Coast Guard Auxiliary Division Captain, Capt. Hood. “I mean, you can’t dispose of these things, and when they find their way into the trash, which they do, they go to the landfill, and then they contaminate our groundwater with a compound called perchlorate. One single marine flare will contaminate 240,000 gallons of water.”

By law, the U.S. Coast Guard requires that boats carry three visual distress signals at all times approved for both day and night use or three for day use and three for night use. In addition, the marine flare must not be expired and must be stowed accessibly.

“So, it is evolving, but every vessel that is 16 feet and over that operates at night or with the intention of interacting in international waters is required to carry a distress signal,” said Hood. “That means both night and day, so basically, there are 30 states in the U.S. that have registered boats that would be required to carry eVDSDs.

“The eVDSD, you only buy them one time. They’re battery-operated, and I think the more expensive ones have lithium batteries that last like ten years. It’s significant. They don’t need to be replaced.”

Single-use pyrotechnic marine flares expire and must be replaced approximately every 42 months. However, due to their classification as hazardous waste, proper disposal of these pyrotechnic marine flares is restricted and extremely expensive, costing up to \$50 per flare for safe disposal. The difficulty of disposal of these single-use flares causes some boaters to continue to store them, dispose of them in regular garbage, or even throw them into lakes, rivers, and oceans. In addition, pyrotechnic marine flares contain a multitude of toxic chemicals, including perchlorate, that can leech into the drinking water supply and damage the environment when improperly disposed of. Currently, many counties in California have no safe disposal options for single-use pyrotechnic marine flares.

“I believe there’s only two incinerators in the United States that can properly,” said Hood. “Basically, when a flare is expired, it is a hazardous toxic material, and in order for it to be transported, it has to be in something called a class four magazine. And then it has to be shipped in that special magazine... to the company that incinerates them.

“That’s why it’s so significant that the education and the trend change,” said Hood. “It’s not the future.”

Recommended Best Practices for Marine Pyrotechnic Flares Disposal:

- Never put flares in the regular trash or any waterway. It is illegal and can endanger solid waste workers or our waterways.
- Do not discharge expired marine flares during civic fireworks festivities or any event. Firing a flare in a non-emergency is considered a false distress message—it is a federal crime and is treated seriously by law enforcement. U.S. Code Title 14, section 88 provides that an

individual who knowingly and willfully communicates a false distress message to the Coast Guard or causes the Coast Guard to attempt to save lives and property when no help is needed is guilty of a Class D federal felony (subject to up to six years in federal prison, up to \$250,000 in fines and reimbursement of all costs the Coast Guard incurs as a result of the false distress signal or call). In addition, misuse of marine flares can cause serious injuries and can be a fire hazard.

- Encourage your county to conduct a collection event for recreational boaters.
- Purchase a USCG-approved electronic visual distress signal to replace old pyrotechnic flares. Electronic visual distress signals are reusable alternatives that do not release chemicals when used, do not expire, and are safe to use.
- Stay informed about legal methods for disposal of hazardous waste and tell other recreational boaters when safe marine flare disposal becomes available. Your marina or yacht club can typically provide you with that information.

Sirius Signal, a San Diego-based eVDSD manufacturer, pioneered the development of eVDSD in Southern California. They have several products for boaters, but they are also the only ones who build products to the new standard.

“The RTCM stands for the Radio Technical Commission for Maritime. In conjunction with the Coast Guard’s research and development and every manufacturer of distress signals. The RTCM did studies where on the water they are looking at different things so they can determine what is the most visible on the water,” said Hood. “So collectively, all of these influences and committees, members, engineers, and technical people, all came together to determine that new two-color SOS eVDSD is the most visible on the water at night.”

An initial field study report was issued in the Long Island Sound to assist with the research, and Sirius Signal funded an additional 2017 field study in San Diego Bay. Dr. Anita Rothbloom from the Coast Guard Research and Development Center was in attendance to observe multiple colors and distress sequences that were being tested. Sirius Signal executive members were also asked to share findings from their focus groups of the C-1001 SOS Distress Light Flare Beacon. Their research confirmed that the SOS signal is still being taught and that a red-orange/cyan light flashing the SOS pattern is most recognizable while on the water.

Sirius Signal produces USCG-approved day and nighttime distress devices focusing on safety, technology, effectiveness, and sustainability. To learn more about purchasing Sirius Signal devices or to request more information about Sirius Signal field studies, visit <https://siriussignal.com> or call 888.526.0005.