

CARBON MONOXIDE DETECTION SYSTEMS ON RECREATIONAL WATERCRAFT LEGISLATIVE CONSIDERATIONS FOR THE STATE BOATING LAW ADMINISTRATOR

This is the second in a series of reports¹ intended as general guidance for the state boating law administrator (BLA) dealing with legislative proposals on recreational boating safety issues -- whether introduced by a legislator in the wake of a tragic event that occurred in-state or in a neighboring state, or, conversely, drafted by the BLA's agency on its own initiative. This issue focuses on considerations for legislative proposals related to marine carbon monoxide (CO) detection systems and warning labels.

While this report provides background information and outlines important elements and caveats to consider when reviewing or drafting such CO-related legislation and policy mandates, the practices described in pages 3-6 could also be adapted to address other boating safety issues that arise—and remediation that may be proposed—following tragic boating incidents.

THE SITUATION: CARBON MONOXIDE RISKS AND POLICY REMEDIATION ISSUES

RISKS OF CARBON MONOXIDE: Over the last decade,² there has been a general downward trend nationally in reports of boater injuries and deaths associated with exposure to carbon monoxide (CO). A combination of increasing awareness of the risks, technological advances, and manufacturing to standards likely has played a significant role in moving the statistics in a more positive direction. However, even with the best boat design, construction, operation and maintenance, under certain conditions CO exposure still can and does happen with sometimes tragic results in the marine environment. Moreover, it is possible that deaths attributed to and recorded as drownings, heart attacks, or other conditions may actually have been caused by exposure to CO.

Most incidents are known to occur on older boats and within the cabin or other enclosed areas, but they can also occur as a result of CO accumulation around boats. Exhaust leaks, the leading cause of death by CO, can allow hazardous levels of the gas to migrate throughout the boat and into enclosed areas. Additional areas of concern are the rear deck near the swim platform with the generator or engines running; teak surfing or dragging behind a slow-moving boat; and backdraft effect on many boat types. Regular maintenance and proper operation can mitigate the risk of injury, but operators and passengers need to be made aware of the hazards posed in and around their boats and observe for [signs of CO sickness](#). In conjunction with the application of and adherence to the messages on CO warning labels, the installation and proper use of functioning marine CO detectors in each accommodation space on boats can greatly reduce the chance of life-endangering exposure.

Go to <https://www.nasbla.org/nasblamain/lighthouse/get-equipped/co-resources> for more information on CO, links to key resources, and a checklist to aid officers/investigators in accurate recognition and reporting of CO involvement in recreational boating incidents.

¹ [ESD \[Electric Shock Drowning\]: Legislative Considerations for the Boating Law Administrator](#) (NASBLA, 2015).

² The five-year annual average of persons suffering injury or dying from CO exposure/poisoning fell from 33.4 to 19.4 in the period 2008-2017; even more dramatic is the decrease from 38.25 in the period 2004-2017 (**Recreational Boating Statistics**, national annual publication of the U.S. Coast Guard, was the source of the counts used in determining the five-year averages).

MARINE CARBON MONOXIDE DETECTION SYSTEMS: THE STANDARD, COMPLIANCE, and THE GAP: Originally published in 1992 and last updated in 2015, the [American Boat & Yacht Council \(ABYC\) A-24 standard](#)³ for marine carbon monoxide detection systems calls for compliance for **all** boats with enclosed accommodation compartments⁴ (regardless of propulsion type⁵), associated equipment, and systems manufactured after July 31, 2016. The standard presents parameters to guide manufacturers' design and construction of the detection systems, their performance, installation, and instructions. Although this and other ABYC standards are voluntary, meaning the federal government does not mandate compliance with ABYC A-24 in order to build or sell boats in the U.S., the [National Marine Manufacturers' Association \(NMMA\) Boat & Yacht Certification Program](#)—a program which approximately 85 percent of boats manufactured in North America participate in—requires adherence to ABYC A-24. [ABYC](#) and [NMMA](#) also have developed three standardized CO warning decals for display on recreational boats.

However, while many boat builders already had been installing the CO detectors prior to the latest update to the ABYC A-24 standard, older vessels and vessels bought and sold in the used market may not have been equipped with CO detectors or if equipped, may be beyond their expiration date, have faulty systems susceptible to false alarms, or even been disconnected.

STATE-LEVEL ACTIONS AND FEDERAL IMPLICATIONS: Some states have amended their boating safety statutes in response to the potential dangers of CO poisoning—such as prohibiting teak surfing, platform dragging or body surfing behind the boat. Additionally, other states have prohibited the operation of a motorboat while someone is occupying or holding onto the swim platform, swim deck, swim step, or swim ladder.⁶ For example, [California AB 2222](#), also known as the “Anthony Farr and Stacy Beckett Boating Safety Act of 2004,” prohibits all of those operations and also requires new vessels and used vessels sold after May 1, 2005, to have carbon monoxide labels on the transom and helm of the watercraft in order to better inform boaters of the CO dangers. The transom and helm labels required by the California law, as well as a cabin label—all standardized products developed by ABYC and NMMA—can be viewed and ordered directly from [NMMA](#) or downloaded as PDF files⁷ from the Coast Guard's [Office of Auxiliary & Boating Safety website](#).

However, a few other states⁸ have gone beyond prohibiting certain activities or requiring warning labels and have established or are considering establishing requirements for installing functional marine CO detectors in new

³ ABYC standards are developed under procedures accredited for meeting the criteria for American National Standards.

⁴ An “enclosed accommodation compartment is defined as one contiguous space, surrounded by permanent structure that contains all the following: a. designated sleeping accommodations, b. a galley area with sink, and c. a head compartment. A cuddy intended for gear storage and open passenger cockpits, with or without canvas enclosures, are not considered to be enclosed accommodation compartments.”

⁵ A prior exception for diesel and outboard boats was removed in the 2015 revision of the ABYC A-24 standard. This was in response to CO poisonings and fatalities in raft up and slip situations where a neighboring boat would be running a generator whose fumes get pulled into an open hatch. The standard became effective after July 1, 2016, and there was a one-year compliance period for boat builders.

⁶ See [NASBLA's Model Act for Safe Practices for Boat-Towed Watersports](#) for suggested provisions.

⁷ See [NW204](#) (Helm label); [NW205](#) (Cabin label); [NW206](#) (Transom label); PDF files for printing on adhesive-backed paper.

⁸ Apart from Minnesota's legislation described on page 3, New York State, for example, has a proposal under consideration in the 2019-2020 legislative session. [S 1640](#), which has passed the state Senate as of this report issuance and references ABYC A-24, would require that no new vessel with an enclosed accommodation compartment or a vessel that has undergone substantial renovations can be sold in the state unless equipped with a new, functioning marine CO detection system installed according to manufacturer instructions.

vessels, vessels being sold, or in at least one case, prohibiting the operation of any motorboat with an enclosed accommodation compartment on any state waters unless equipped with a functioning CO detection system.

In 2016, Minnesota enacted "[Sophia's Law](#)," which not only called for affixing CO poisoning warning labels, but also gave the state the distinction of being the first to mandate installation of functioning marine CO detection systems—according to provisions in the ABYC A-24 standard—on **all** motorboats with an enclosed accommodation compartment operating on any state waters, and, after a grace period, to prohibit the sale of any new motorboat with such an enclosure unless equipped with the detection system. In 2018, the state [modified its statute](#), intending to provide "greater clarity" to the original provisions and address "unintended consequences" for the houseboat, hospitality, and rental industries. But in doing so, the state omitted reference to ABYC A-24 in its definition of a marine CO detection system and specified locations for installing the detectors—revisions that put the legislation out of alignment with the ABYC standard already widely followed by boat manufacturers.

Well-intended state legislative remediations to safety issues—in this case, setting requirements for CO detection systems—can also have the more fundamental effect of putting the legislation in conflict with federal law, and thus open up the potential for lawsuits at the state or sub-state division level. [46 U.S. Code Section 4306](#) notably preempts state establishment or enforcement of laws or regulations on the performance or safety standards of recreational boats and associated equipment:

[46 U.S. Code Section 4306 Federal Preemption](#): Unless permitted by the Secretary [of the Department under which the Coast Guard is operating (currently Department of Homeland Security)] under section 4305 of this title, a State or political subdivision of a State may not establish, continue in effect, or enforce a law or regulation establishing a recreational vessel or associated equipment performance or other safety standard or imposing a requirement for associated equipment (except insofar as the State or political subdivision may, in the absence of the Secretary's disapproval, regulate the carrying or use of marine safety articles to meet uniquely hazardous conditions or circumstances within the State) that is not identical to a regulation prescribed under section 4302 of this title. (Pub. L. 98–89, Aug. 26, 1983, 97 Stat. 531.)

While this section of U.S. Code authorizes the Coast Guard to grant a waiver from preemption (e.g., if vessel safety and performance will not be adversely affected), the practice has been used sparingly and on a case-by-case basis since greater uniformity of boating laws and regulations is a goal of the Federal Boat Safety Act, which created the National Recreational Boating Safety Program. Preemption allows boaters to freely operate their boats between jurisdictions without concern about such requirement changes between borders. As such, there is **no** guarantee that affected state legislation will receive or retain a waiver from preemption from the Coast Guard.

In Minnesota's case, the state's 2016 [Sophia's Law](#) was preempted by 44 U.S. Code Section 4306, but the Coast Guard waived preemption as it assessed that the state's provisions were based on the ABYC A-24 standard, that most boats—especially new ones—were already in compliance and only a smaller portion of the boats in use would need to comply, and that the requirements would not affect boat performance. However, the significant changes to the legislation in 2018—notably, omitting references to the ABYC A-24 standard and revising the requirements for placing the CO detectors—have since resulted in the Coast Guard's reevaluation and withdrawal of the original waiver from preemption.

THE LEGISLATIVE PROCESS: GETTING INVOLVED AS A BLA & ADVISING OF POSSIBLE CAVEATS ASSOCIATED WITH PROPOSALS⁹

- I. Through your approved, state-specific channels or methods, identify and contact the legislators and other key parties (public, boating constituents, etc.) who have already taken up the bill, who intend to take up a bill, or who have been identified as potentials to carry the bill forward on the agency's behalf.

In the event you do not have or cannot have direct contact with legislators, especially if your agency must avoid lobbying for any particular position, stay in touch with administration officials who do have that contact.

- Establish your credibility and stake in the issue through education:
 - o *Convey general information (see identified resources for background and facts).*
 - o *Describe the prevalence of the issue in your state (from your own records).*
 - o *Identify sound, applicable legislative examples from other states; applicable standards and safety codes; and practices recommended by legitimate, expert professionals and organizations. (Note: ideally, with legislative examples, seek out states that have achieved their goals in terms of the provisions included in the legislation and who have lowered risk factors and incidents based on legislation enacted).*
 - o *Identify federal code or regulatory issues that may put the proposal in conflict and would require a preemption waiver (see also section II (below)).*
 - o *See section V of this report for specific policy and technical elements to consider in advising on CO detection-related legislation.*
- II. Notify your Coast Guard liaison at U.S. Coast Guard Headquarters as soon as possible for guidance on any federal preemption-related issues (see discussion on page 3 and the list of considerations in section V, page 5).
- III. Establish your own position as an agency.
 - What are your goals as they relate to the proposed legislation? What are you hoping to accomplish? What are you hoping to avoid?
 - Establish your primary point of contact (a person or a group) as it relates to this project. Just make sure you are all on the same page/have consensus.
- IV. If time allows or if there is interest by the drafters/sponsors of the legislation, consider gathering additional input from constituents that will be impacted by potential enactment (continues next page):
 - Identify groups that could be impacted:

⁹ These steps can be used to address not only the review of CO-specific legislative proposals, but also can be applied to other boating safety issues and remediations that arise following tragic boating incidents.

- *For CO-related matters, that would include boaters, swimmers (even if they are not boaters), marinas, manufacturers, tourism industry, and other stakeholders.*
 - Provide forums (online, in person, webinar, other formats) to discuss the suggested “fixes” and allow for feedback on details that might need additional discussion (especially “hurdles” that might be presented from some groups).
- V. Be a part of the drafting and review of the legislation, if possible (continues next page):
- What questions should you ask of your agency in developing or reviewing the content?
 - *If there is a component of the proposed legislation that requires additional work on your agency’s part, can that be accommodated? How? Will additional funding be required to complete the additional work?*

- In the case of CO-related proposals, and specifically, detection systems on recreational vessels, what specific policy and technical elements should be evaluated in reviewing and drafting such proposals? Consider the implications associated with each:

- *What types of vessels are being targeted for requirements of CO detectors or warning labels—All motorboats with enclosed accommodation compartments? Just new boats? Used boats being sold? Boats currently owned and in use?*
- *What are the implications for enforcement? Consult with the agencies that would be involved in enforcing the provisions. Are the requirements practical and feasible? Would new or specialized training or equipment be necessary and at what cost? How will the enforcement of the provisions be conducted, and what impact will they have on law enforcement agencies?*
- *Would the proposed provisions put the legislation in conflict with 46 U.S. Code Section 4306 (federal preemption), and if so, will the U.S. Coast Guard grant a waiver from preemption? (see section II on page 4) There is no guarantee that the Coast Guard will grant a waiver (see discussion on page 3), but consider factors that the Coast Guard has evaluated in similar state legislative proposals: for example, does it incorporate existing, applicable voluntary standards and how does it address the potential impacts on out-of-state boaters?*
- *Would the proposed requirements be in alignment with the language in existing, accepted voluntary standards (for definitions and other provisions)? In the case of marine CO detection systems, would the proposed provisions be in accord with the latest version of the American Boat & Yacht Council (ABYC) Standard A-24, Carbon Monoxide Detection Systems? In the July 2015 version, that is:*
 - For the definition of an “enclosed accommodation compartment”: “One contiguous space, surrounded by permanent structure that contains all the following: a. designated sleeping accommodations, b. a galley area with sink, and c. a head compartment.” With exception that “A cuddy intended for gear storage and open passenger cockpits, with or

without canvas enclosures, are not considered to be enclosed accommodation compartments.”

- For the definition of a “marine carbon monoxide detection system”: A device or system that meets the requirements of the latest version of ABYC Standard A-24 (effective July 1, 2015).
 - For the location and performance of the detectors: Installed according to manufacturer instructions (Installation provisions in section 24.7 of the ABYC Standard A-24). Location and performance provisions other than what are specified in this standard may inadvertently create a false sense of security
- *Would the proposal affect visiting boaters with vessels registered in other states? If so, what are the implications for enforcement and what outreach would be necessary to make out-of-state boaters aware of any new requirements?*
 - *In requiring the placement of CO-exposure warning labels on the targeted vessel(s), is reference made to the standardized labels that have been developed by ABYC and the National Marine Manufacturers Association (NMMA) and that are distributed by NMMA?*
- Stay engaged and in contact with parties involved in moving the legislation through the approval process.
 - *Things can change quickly in committee, so stay in tune with things daily if needed; you want to make sure that nothing unexpected gets thrown into the mix at the last minute.*

VI. So, you have legislation – now what?

- Follow-up education to constituents:
 - *Let various groups know about the change – and if needed, the background on why it was needed. Inform the groups who were involved in providing initial input about the final outcome of their participation.*
- Consider any changes in the way that your agency does business that might need to be made:
 - *For example, will you have to check marinas or equipment in any way as part of the legislation?*

VII. Monitor the effects of the legislation.

- Legislation is cyclical – things always seem to come back around:
 - *Consider whether there are any measurements that you can establish from statistics at hand – pre-legislation and post-legislation – that might indicate the success or deficiencies of the implementation.*
 - *Be prepared to present those details when needed if discussion on the topic comes up again.*