

Carbon Monoxide (CO) Incident Response and Investigation Checklist

The two-page checklist that follows is designed to assist officers, investigators, and other first responders in the accurate recognition and reporting of Carbon Monoxide (CO) incidents.

It is not intended to be exhaustive. It covers basic—but critical—actions and information for use in making the initial response, assessment, and determination of the reportability of the suspected or confirmed incident. It can and should be customized to incorporate jurisdiction-specific provisions and contact information.

For more information and resources, go to:

<https://www.nasbla.org/nasblamain/lighthouse/get-equipped/co-resources>.

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INITIAL RESPONSE / SAFETY MEASURES

Scene Location – Carbon monoxide-related accidents occur in various boating environments and include many types of vessels. Victims may be on board the vessel or may have gone missing underwater. Each type of environment and vessel type will have both unique and similar investigative actions. Listed below is a small sample of potential scenes:

- Swimming/drowning from and near vessels with running engines or generators
- Persons sick or unconscious in/on any vessel underway
- Persons sick or unconscious in/on any anchored or moored vessel with running engines or generators
- Teak surfing or platform dragging type of activities
- Large numbers of vessels at marine events or gathering locations
- Swimming/drowning from vessel after CO exposure from different scene or activity

Secure the Scene

- There is a significant risk to first responders!**
- Surviving witnesses may have moderate to high CO exposure – medical attention may be necessary
- Utilize fire/rescue personnel with a self-contained breathing apparatus and CO monitors for initial entry when enclosed cabin/compartments are part of the scene
- Record any measured CO levels
- Turn off all internal combustion engines
- Open doors, windows, hatches to allow for movement of fresh air
- If underwater recovery occurs in/near marinas or docks turn off all shore power as the event could be electric shock related. The cause of death/drowning may not be known until after an autopsy. For information on electric shock drownings and a response/investigation checklist, see <https://www.nasbla.org/nasblamain/lighthouse/get-equipped/esd-resources>
- Remove/recover victims

EVIDENCE COLLECTION AND SCENE ASSESSMENT (continues next page)

Types of Evidence to Secure

- The victim** – Visual examination, photos, autopsy including carboxyhemoglobin (COHb) test
 - If the victim survives the CO event, interviews, statements, and medical records including COHb test will be necessary for the investigation. Activities and location aboard or around the involved vessel will be important information.

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- Witnesses** – Interviews of the vessel owner, occupants, and nearby witnesses will be imperative to determine the details of the case. Details of the vessel operation, occupants' activities and locations will help build a picture of the cause of the incident.
- Vessel/vessels** – The source of the CO will be from a vessel's engine or generator. The entire vessel will need to be secured until an inspection can be conducted. Some scenes may require multiple vessels to be inspected for the source of CO. Any recent maintenance and/or modifications need to be inspected and documented.
- CO detectors** – If CO detectors are installed in the involved vessel, investigators should document the number, type, functionality, and expiration date. Investigators should be aware of evidence that shows the CO detector was purposely disabled (battery removed, unplugged, or device completely removed from vessel).

INVESTIGATING THE SOURCE OF CARBON MONOXIDE

- If during the **INITIAL RESPONSE** preliminary evidence shows the possibility of carbon monoxide, the source of CO should be investigated and a determination made as to how or where the victim was introduced to the CO.
- Were engines or generators being operated prior to the incident? Were adjacent or nearby vessels operating engines?
- How long was the operation prior to the incident? Where are the exhausts located and the relation between that location and the location of the affected victims?
- It may be necessary to inspect the engines and exhaust systems looking for exhaust leaks into the bilge of cabin motorboats and house boats.
- Investigators may need to CAREFULLY re-create the scene/environment by operating the vessel in the same manner prior to the incident in order to find exhaust leaks, CO levels, or flow of exhaust into the area where the victim was affected.
- Document the configuration of doors, windows, and hatches prior to rescue personnel entry.

REPORTING TO THE COAST GUARD

- If the incident is determined to be a Carbon Monoxide related injury or fatality**, the incident is considered USCG reportable as a recreational boating accident and should be submitted to BARD accordingly.

For more information and links to resources, see:

<https://www.nasbla.org/nasblamain/lighthouse/get-equipped/co-resources>.