

APPENDIX: ERAC-2015-A3(a)

Electric Shock Drowning / Near Drowning Response and Investigation Checklist

This two-page checklist is designed to assist officers, investigators, and other first responders in the accurate recognition and reporting of Electric Shock Drowning events.

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 www.nasbla.org/ESDResources.

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INITIAL RESPONSE/SAFETY MEASURES

Secure the Scene

- Turn off ALL power sources to the boat and/or dock.
- If there is ANY doubt about the source of the current, shut down power to the entire area/marina.
If power is shut down, be ready to have a state code or local power board official on scene to authorize repower of the affected area.

THE AREA SHOULD BE DEEMED 'SAFE' BEFORE ANY ACTION IS TAKEN TO ASSIST/RECOVER VICTIM(S)!

Assist/Recover Victim(s)

- Use of Automated External Defibrillator (AED) may be required.

INITIAL ASSESSMENT/DATA COLLECTION ON SCENE

Ask critical questions about the Victim(s):

- Did the Victim(s) exhibit any of the following behaviors alone or in combination?

<i>Often associated with ESD...</i>	<i>Often associated with Drowning...</i>	<i>Often associated with Electrocutation...</i>
'Tingling' sensation, numbness, pain, paralysis; may initially be able to shout; looks distressed, not playful; may move into drowning behavior once water enters lungs	Cannot speak or shout; reflexive 'ladder-climbing'; looks playful; behavior lasts approximately 60 seconds for adult, 20 seconds for child	May be able to scream once; sudden cessation of all activity; if wearing PFD, may roll onto back, become unresponsive; if there is no flotation, will likely roll face-down

- Did the Victim(s) exhibit any "burn marks" or other body trauma?
 - *ESD victims will show NO apparent bodily injury or trauma.*
- Did the Victim(s)' condition worsen when swimming toward a particular boat or dock, when swimming between two boats, or when swimming between a particular boat and a dock?
 - *Take note of the locations/boats involved for investigation as possible stray current sources. Victims seeking a "safe haven" may actually have been swimming closer to the source of the electricity.*
- Did the Victim(s) have any pre-existing medical or heart condition?
 - *Such condition(s) could have rendered the victim(s) even more susceptible to a minute amount of AC current.*

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□ Ask critical questions about the Environment:

- Is the area freshwater or salt water?
 - ESD generally does not occur in salt water/high salinity areas (although it is not impossible)
- Are there boat(s) at the dock that have potential power sources for emitting stray alternating current into the water?
 - Consider lower units, propellers, metal ladders, other metal objects attached to/through hulls, etc.
 - On-board generators are NOT a possible source unless the generator provided AC power to an adjacent boat or location other than the boat on which the generator is located.
- Does the potential source boat have only DC power?
 - Twelve-volt electricity will NOT cause ESD.

□ Document other critical information about the potential boat(s) involved and the site:

- Hold/seize/impound any nearby, potentially-involved boat(s).
- Document the type of electrical safety equipment (*circuit breakers, power cords, etc.*) at the pedestal and distribution panels.
- Record seating/standing diagrams of all occupants of the boat.
- Document all safety signage at the dock/marina.
- Gather complete history of involved boat (*ownership, repairs, maintenance, slip rental, service records (if any) on pedestal supplying power to boat*)

INVESTIGATING SOURCE OF STRAY AC CURRENT

If the INITIAL ASSESSMENT indicates the possibility of ESD, the source of stray AC current should be investigated.

As soon as possible, notify the local or state agency with jurisdiction over electrical inspection and permitting.

Investigation may involve:

- Use of electrical probe and multimeter (two persons required)
 - See procedure/tool described in *NASBLA Comprehensive Accident Investigation Course (Module 2-06)*
- Request to an ABYC-certified Marine Electrician for assistance [State: insert web address or phone number]

If no source is identified through these methods, but ESD is still suspected, consider:

- If there is a boat with a cycling appliance that was not operating at the time of the testing.
- If the source vessel(s) may have departed the area prior to testing.

DETERMINE WHETHER INCIDENT IS REPORTABLE TO THE COAST GUARD

If the source is determined to be “stray current related to a vessel,” the incident is considered USCG reportable as a boating accident and should be submitted to BARD accordingly.

Incidents that involve ‘hot docks’ (where the source of the stray current is associated with a dock or shore power, rather than a boat) are not considered USCG reportable accidents, but should be addressed through immediate intervention/correction, usually in cooperation with the assistance of the local fire department, fire marshal, inspector, etc.

For more information and links to resources, see www.nasbla.org/ESDResources