

## Recovery from a Flood – Safety Alert for Owners and Operators of Boilers, Pressure Retaining Equipment, Refrigeration Systems or other Appliances

**TRENTON, N.J., NOVEMBER 2, 2012** \_ The state Department of Labor and Workforce Development has issued a safety alert in the wake of Hurricane Sandy regarding the use of boilers, pressure vessels and other equipment that has been damaged as a result of high waters.

The LWD's Mechanical Inspection Bureau of Boiler and Pressure Vessel Compliance (BB&PVC) warns that the safe operation of boiler and other systems is impacted when the electrical systems, controls and safety devices become inundated with water. Extreme events, such as those brought on by Hurricane Sandy, may partially or totally submerge these systems, causing malfunction or catastrophic consequences.

Proper corrective action must be taken to mitigate any potentially hazardous condition that may result from a flood. Attempting to turn on or operate any steam or hot water heating system, potable water, refrigeration system, appliance or other HVAC equipment after a flood can have serious consequences that could cause a fire, property damage, serious personal injury or death as a result of malfunctioning controls.

While every possible scenario or failure cannot be anticipated, it is imperative that professional service be sought to conduct a complete and thorough evaluation of equipment after it has sustained flood damage. This is because flooding can affect the safe operation of equipment and it could damage it in a way that is not easy to detect. Safety-related mechanical or electrical components become damaged and problems may be difficult or impossible to detect and as a result, the safety device or component may become disabled due to the flood.

While repairs can be made to certain types of equipment that is damaged in a flood, the repairs could prove to be extremely costly thus; the economic impact must be assessed. Any damaged equipment repairs must comply with and adhere to the existing safety-health standards and the appropriate jurisdictional agency oversight. Only safety devices and components that have been accepted for their intended service by a nationally recognized testing agency such as but not limited to, UL, FM or CSA shall be utilized. *Used or rebuilt replacement components are not acceptable* due to the safety risk.

In addition, repairs must only be performed by a qualified contractor with the properly licensed electricians, plumbers and boiler repair companies authorized to perform welded repair if necessary on equipment. The extreme cost of repairs results from the validation, confirmation and replacement of components that must be done by a qualified and authorized company. In accordance with various State statutes and/or regulations a qualified repair firms must comply with all accepted engineering and safety practices.

Any equipment or essentially anything that was submerged or exposed to the elements or abnormal environmental conditions must be tested and this includes any accessory, ancillary or integral equipment such as a motor or pump electrical wiring, contacts, relays, valves, actuators, safety controls, limits, insulation etc. Based on consideration of the foregoing information, it is apparent that in most cases and for safety reasons the best action is to "replace" and not attempt to repair the equipment.

The BB&PVC is providing several links to articles from the National Board of Boiler and Pressure Vessel Inspectors (NBBPV), the Hartford Steam Boiler and Insurance Company (HSB) and from the Air Conditioning, Heating, and Refrigeration Institute (AHRI). The articles typify reasonable action that must be considered when equipment has been affected by a flood. While each article provides a perspective for a given situation, the decision to repair or replace must be made based on the extent of the damage. However, from the standpoint of safety the BB&PVC would recommend replacement versus repair because of the potential risk.

Equipment owners are encouraged to work closely with their property and casualty insurance agent or their boiler and machinery inspection if applicable to ascertain the proper course of action.

The NBBPVI article "Recovering Boiler Systems After a Flood" was originally published in the August 1993 National Board Infoletter. Its purpose is to assist people in the safe recovery of boiler systems affected by flooding. **The pdf link below will need to be placed in address bar and click enter** <http://www.nationalboard.org/NationaBoardNews.aspx?NewsPageID=335>

Please contact your insurance company as they might also have similar articles or guidelines for you to utilize as a result of a flood. This "Flood Recovery Alert" is published by HSB. Link is:

<http://www.hsb.com/cmsfiles/732.pdf>

Additional information about the impact of flooding damage to water heaters and other electrical and gas appliances can also be found on the Air Conditioning, Heating, and Refrigeration Institute (AHRI) site:

<http://www.ahrinet.org/floods+and+hvacr+equipment.aspx>.

FOR QUESTIONS REGARDING THIS INFORMATION, please contact the BB&PVC by calling (609) 292-2921 or email at [BPVRCompliance@dol.state.nj.us](mailto:BPVRCompliance@dol.state.nj.us). To report an emergency situation related to your boiler, pressure vessel, pressure retaining item or refrigeration system under the jurisdiction of the BB&PVC please call (609) 984-0626.

Also, for additional information, please refer to the BPVR web site at:

<http://lwd.dol.state.nj.us/labor/lwdhome/press/2012/20121102>