



LOSS CONTROL BULLETIN



Another loss prevention service from Bollinger, Inc.

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ABOVE GROUND STORAGE TANKS (AST's) #121

Environmental laws and the liability associated with the storage of gasoline, diesel fuel and other flammable/combustible liquids present a significant exposure to any golf operation. Clubs that have underground storage tanks, single wall above ground storage tanks or non-standard fabricated tanks and related piping, have an increased risk to catastrophic loss potential from fire and/or accidental discharge or leakage of the contents of these tanks. Reclamation and restoration of contaminated soil, surface waters and wildlife have far reaching costs that may not be covered by any insurance policy. The Bollinger Club Program does not offer coverage for underground storage tanks. However, coverage can be endorsed for above ground tanks (AST's) that are designed to standard and that are installed properly. UL Listed self-contained vault type tank systems are recommended.

This is a picture of a recent fire loss at a county club that had a standard vault tank system. In this fire incident over 20 golf carts were fully involved in the fire and exposed the adjacent gasoline and diesel fuel storage vault. There was no damage or loss of fuel from the vault nor did the vault contribute to the severity of the fire. On the other hand the two propane tanks seen adjacent to the building were exposed to the fire overheated and released flammable gas through the pressure relief valves. The gas ignited and further contributed to the severity of the fire loss.



TANK DESIGN AND SAFETY SPECIFICATIONS

Aboveground storage tanks can be used to store gasoline or diesel fuels for club operations. These tanks can be configured in many ways and mounted either vertically or horizontally. The tanks can be constructed of various materials including concrete, lined or unlined steel, fiber reinforced plastic, or special alloys. Tank systems will include fill and outlet pipes, vents, rains, level indicators, overfill sensors and alarms and overflow

connections. Some states require vapor recovery devices. The following are design considerations:

- Most AST's need to meet U.S. EPA's "Spill Prevention Control and Countermeasure (SPCC) requirements (40 CFR, Part 112). SPCC applies to facilities with a single AST with a storage capacity greater than 660 gallons or multiple tanks with a combined capacity greater than 1,320 gallons. SPCC requires procedural and contingency plans, as well as, various technical requirements, such as corrosion protection.
- Physical damage, corrosion and mismanagement of AST's can result in leakage, fire damage or explosion. The following features should be incorporated with AST installations:
 - ✓ Provide secured access to the tank and dispensing operations that can include 6 foot chain link fencing with locked gate, adequate area lighting, ability to secure dispensing nozzle from unauthorized use, tank access locks and/or other means to prevent unauthorized use or vandalism.
 - ✓ Isolate the tank location 40 feet or more from buildings, equipment and surrounding foliage and combustible ground cover.
 - ✓ Isolate tanks from water sources, such as well heads, lakes, and streams. A separation distance of at least 50 yards is recommended from any surface waters. Do not locate tanks in high water table or flood prone areas.
 - ✓ Good housekeeping around the tanks needs to be maintained at all times. Do not store any combustibles adjacent to the tank.
 - ✓ Dispensing must include UL Listed or FM Approved hose break valves and hoses that are bonded to ground. *(See photo of hose break connection)*
 - ✓ Steel and/or concrete stanchions or barriers should protect tanks and dispensing operations from vehicles or golf carts.
 - ✓ Wiring for pumps, controls, emergency shutoffs, lighting, heating, etc. must be in accordance with NFPA 70, "**National Electrical Code**," for hazardous atmospheres.
 - ✓ Signs must be posted at the dispensing point with the words, "**No Smoking or Open Flames. Turn off engine before refueling**" or similar wording.
 - ✓ A kit of spill response materials should be close at hand for emergency use.
 - ✓ For all electrically operated pump stations; a sign should designate the location of the pump emergency shut off switch.
 - ✓ At the close of business, each pump should be locked to render it inoperable. This includes locking the electrical supply for electric pumps or locking the pump handle for manual pumps.
- At a minimum, most AST's need to meet state and local environmental standards and fire codes, which have construction, installation, operation and maintenance requirements that are intended to prevent fires or accidental discharge of contents resulting from mismanagement or substandard AST's installations. For more information, check with your local authority having jurisdiction, such as your local Fire Marshall, state EDP or municipal building department.

PREMANUFACTURED TANK SYSTEMS

There are a few manufactures that have designed above ground tank systems that meet recognized EDP, fire code and UL standards. These tanks meet safety requirements for primary/secondary containment, leak monitoring, spill containment and overfill protection. They are also designed to for thermal/vehicle impact/projectile-resistant protection. These units are usually shipped as a finished assembly, normally limiting the need for major on-site work other than to provide a concrete pad and electrical service. The following is a list of some available manufactures and their website address:

Trusco Tank, Inc. - www.supervault.com
Wel-Built Fabricators, Inc. - www.wel-built.com
ConVault, Inc. - www.convault.com

Re-connectable dry breakaway connector for gasoline dispensing. In the event of a breakaway, the hose disconnects preventing damage to the dispensing unit and limiting leakage of the fuel being dispensed. Notice UL labeling on the left side.



IMPORTANT NOTICE - The information and suggestions presented by Bollinger Inc. in this Loss Control Technical Guide are for your consideration in your loss prevention efforts. They are not intended to be complete or definitive in identifying all hazards associated with your club, preventing workplace accidents, or complying with any safety related, or other, laws or regulations. You are encouraged to alter them to fit the specific hazards of your club and to have your legal counsel review all of your plans and club policies.