

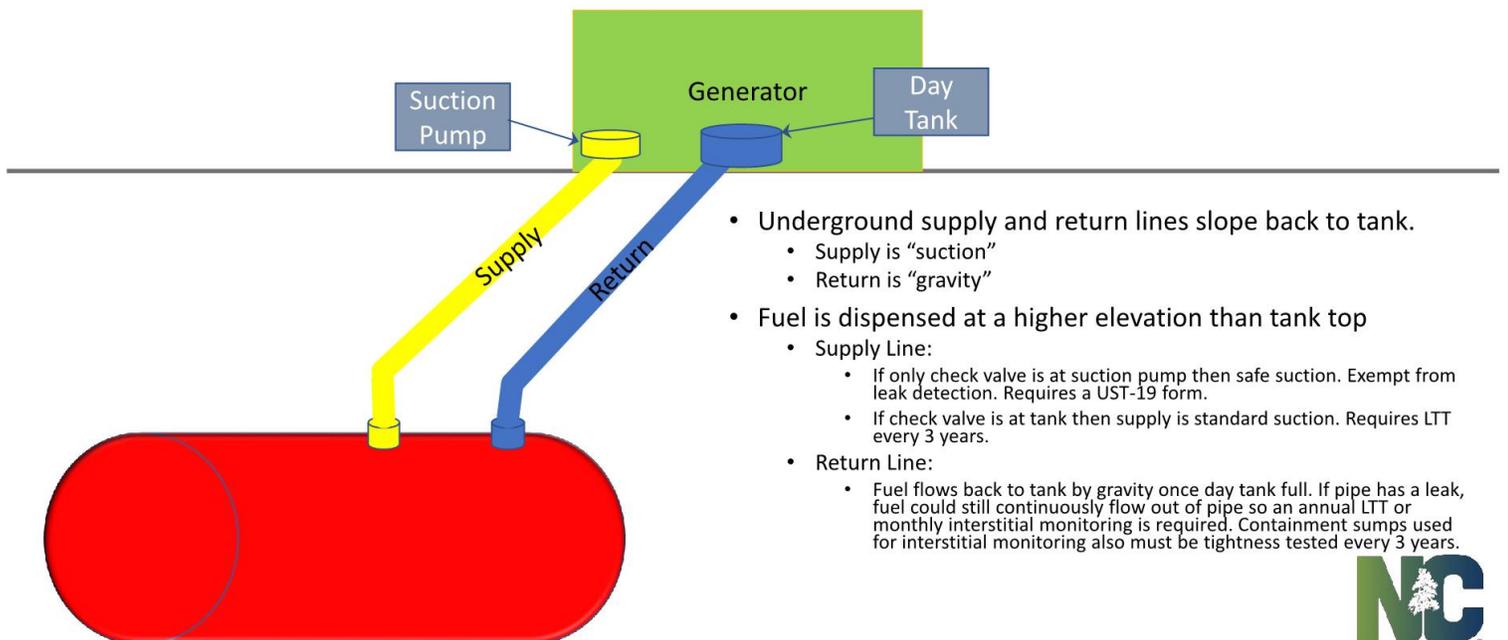
Emergency Generator UST system leak detection requirements if installed prior to 11/1/2007

Beginning on October 13, 2018 regulated emergency generator tank systems installed prior to 11/1/2007 are required to implement tank and piping leak detection. For tanks that means one of the permanent tank leak detection methods will need to be conducted. Of those permanent tank leak detection methods, only the following will typically be a valid method for an emergency generator tank.

- Monthly in-tank leak detection with an automatic tank gauge (ATG)
- Monthly interstitial monitoring (If the tank is double walled)

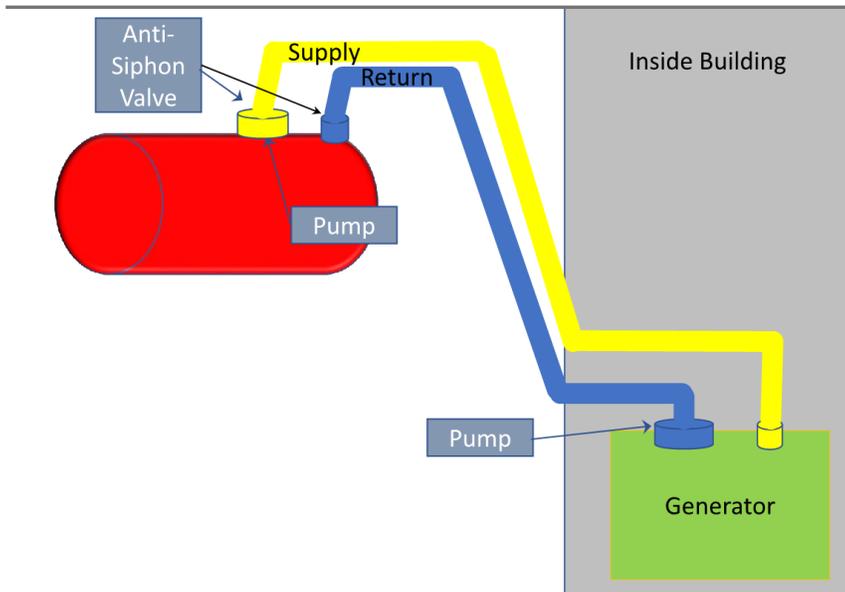
For piping leak detection, the first step would be to determine the configuration of your supply and return lines. Are they pressurized, suction, gravity, or some hybrid of these configurations? If pressurized, do you have or can you install an automatic line leak detector (ALLD)? The following diagrams show four typical configurations of piping for emergency generators and the types of piping leak detection that are acceptable. If your system is not configured like these and you are unsure what leak detection methods will be acceptable then contact the UST section at (919) 707-8171 or michael.phelps@ncdenr.gov at (336) 776-9684.

Generator UST Piping Version 1 (Piping installed prior to 11/1/2007)



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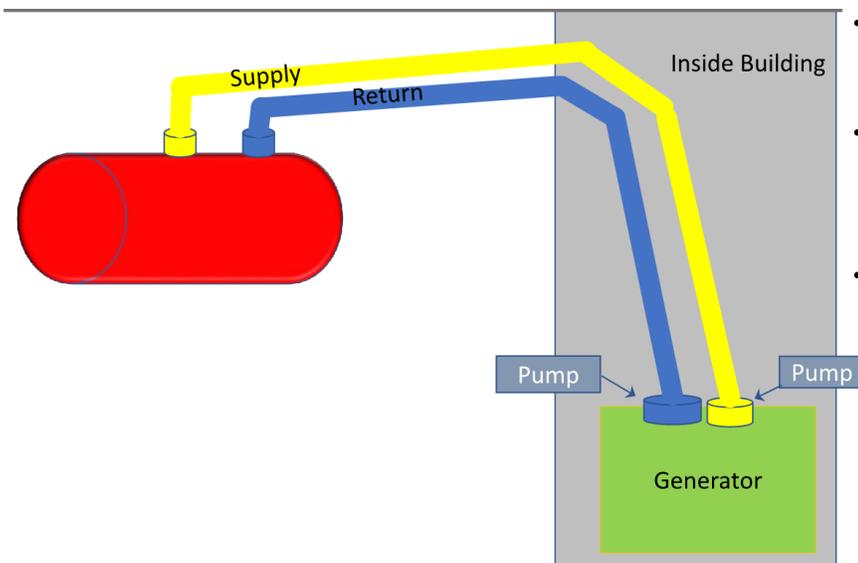
Generator UST Piping Version 2 (Piping installed prior to 11/1/2007)



- Underground supply and return lines do not slope back to tank.
 - Supply is "pressurized"
 - Return is "pressurized"
- Supply
 - Requires an ALLD and annual LTT or monthly interstitial monitoring (requires DW pipe)
 - If an ALLD cannot be installed then interstitial monitoring is required with sump sensors wired to shut down pumping system. Containment sumps used for interstitial monitoring also must be tightness tested every 3 years.
- Return
 - Requires an ALLD and annual LTT or monthly interstitial monitoring (requires DW pipe)
 - If an ALLD cannot be installed then interstitial monitoring is required with sump sensors wired to shut down pumping system. Containment sumps used for interstitial monitoring also must be tightness tested every 3 years.



Generator UST Piping Version 3 (Piping installed prior to 11/1/2007)

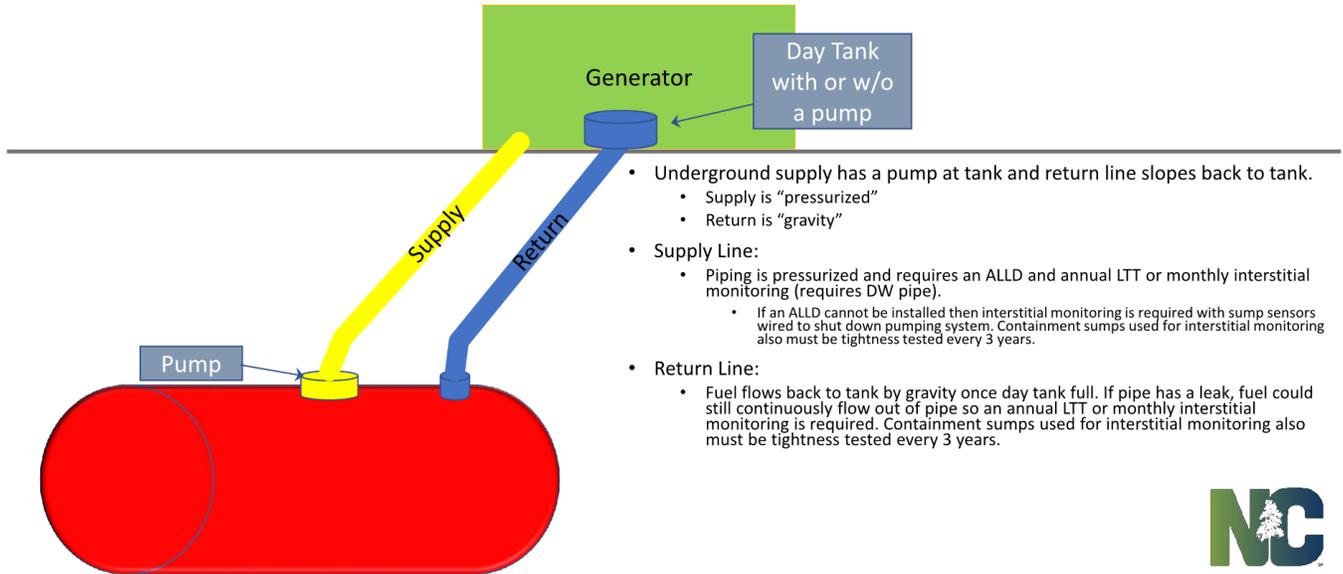


- Below ground portion of supply and return are sloped back to tank.
 - Supply is "suction"
 - Return is "gravity"
- Supply line
 - If check valve is at tank then supply is standard suction. Requires LTT every 3 years.
 - If there is not a check valve at the tank then "safe suction" and exempt from leak detection. Requires a UST-19 form.
- Return line:
 - Below ground portion is gravity feed back to tank, however fuel still will get pumped through pipe if there is a leak.
 - Requires an annual LTT or monthly monitoring such as interstitial monitoring with sump sensors that are wired to shut down pumping system. Containment sumps used for interstitial monitoring also must be tightness tested every 3 years.



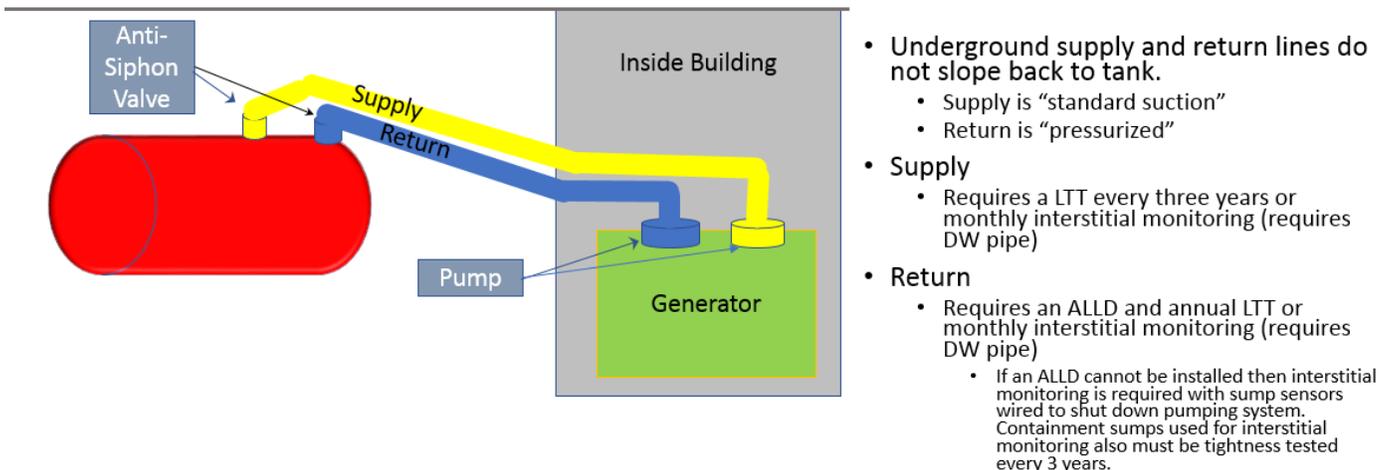
Emergency Generator UST system leak detection requirements if installed prior to 11/1/2007

Generator UST Piping Version 4 (Piping installed prior to 11/1/2007)



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Generator UST Piping Version 5 (Piping installed prior to 11/1/2007)



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