ENVIRONMENTAL
Fact Sheet

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

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REM-34 2021

Applicable References for the Design of Piping Systems for Underground Storage Tank (UST) Systems for Generators

(with or without Day Tanks)

The New Hampshire Department of Environmental Services (NHDES), in collaboration with the New Hampshire State Fire Marshal's Office (SFMO), provides the following as a summary of applicable rules and codes for the selection of materials to aid in the design and review of piping systems for the following Underground Storage Tank (UST) systems:

1. UST supplying Generators with a Day Tank.
2. UST supplying Generators without a Day Tank.

Notes and References:

- **Chapter Env-Or 400** (effective 10/10/2018) = Underground Storage Tank Facilities (NH Code of Admin. Rules).
- **NFPA 30** (2015) = Flammable and Combustible Liquids Code (National Fire Protection Association).
- **NFPA 37** (2015) = Standard for the Installation & Use of Stationary Combustion Engines & Gas Turbines.
- **NFPA 110** (2013) = Standard for Emergency and Standby Power Systems.

***See Env-Or 403.01(c):** In the event that any of the applicable reference standards conflict with this chapter or with each other, the requirement that is more protective of the environment shall apply.

DISCLAIMER: This summary provides general information only and is not all inclusive. For complete regulatory information directly consult the applicable administrative rule or NFPA standard. Information contained in this document is current as of April 22, 2021. Statutory or regulatory changes that may occur after that date may cause part or all of the information to become invalid. If there are any questions concerning the current status of this information, please call us at (603) 271-3899 or email us at ORCBWMD@des.nh.gov.

1. Installation: UST --> Day Tank --> Generator

Location	Item	Applicable Rules & Codes	Additional Information
UST to Day Tank (Day Tank Filling)	Underground Piping	*Env-Or 405.02 NFPA 37 6.8.1	A
	Aboveground Piping (outside)	Env-Or 405.02(e) NFPA 37 6.8.1 NFPA 110 7.9.3.1	B
	Aboveground Piping (inside)	NFPA 37 6.8.1 NFPA 110 7.9.3.1	C
	Pipe Joints	NFPA 37 6.8.1 [NFPA 30 27.5]	D
	Valves & Fittings	NFPA 37 6.8.1 [NPFA 30 27.4.3]	E
	Pumps	Listed for use and installed per manufacturer	F
	Flex lines	Env-Or 405.02(f) NFPA 37 6.8.2.1 NFPA 110 7.9.3.2	G
Day Tank	Vent Pipe	NFPA 37 6.7 [NFPA 30 27.4.4.2]	H
Day Tank to Engine (Generator Supply)	Aboveground Piping	NFPA 37 6.8.1 NFPA 110 7.9.3.2	C
	Pipe Joints	NFPA 37 6.8.1 [NFPA 30 27.5]	D
	Valves & Fittings	NFPA 37 6.8.1 [NFPA 30 27.4.3]	E
	Flex lines	Env-Or 405.02(f) NFPA 37 6.8.2.1 NFPA 110 7.9.3.2	G

2. Installation: UST --> Generator (no day tank)

Location	Item	Applicable Rules & Codes	Additional Information
UST to Generator (all piping is "supply")	Underground Piping	*Env-Or 405.02 NFPA 37 6.8.1	A
	Aboveground Piping (outside)	Env-Or 405.02(e) NFPA 37 6.8.1 NFPA 110 7.9.3.1	B
	Aboveground Piping (inside)	NFPA 37 6.8.1 NFPA 110 7.9.3.1	C
	Pipe Joints	NFPA 37 6.8.1 [NFPA 30 27.5]	D
	Valves & Fittings	NFPA 37 6.8.1 [NFPA 30 27.4.3]	E
	Pumps	Listed for use and installed per manufacturer	F
	Flex lines	Env-Or 405.02(f) NFPA 37 6.8.2.1 NFPA 110 7.9.3.2	G

Additional Information:

A	Per Env-Or 403.01(c) the UST piping standards in Env-Or 405.02 and Secondary Containment in Env-Or 405.04 control use of underground piping materials.
B	Metal (including brass/bronze) piping is acceptable for use without needing to meet other requirements of NFPA 30 Chapter 27.
	Use of other than metal piping must meet the requirements of NFPA 30 Chapter 27.
	Piping must be protected from corrosion by paint or an approved coating.
C	Metal (including brass/bronze) piping is acceptable for use without needing to meet other requirements of NFPA 30 Chapter 27.
	Use of other than metal piping must meet the requirements of NFPA 30 Chapter 27.
D	Pipe Joints may be welded, flanged, threaded or mechanically attached.
	Pipe joint mechanical strength cannot rely on components that can cause joint failure during a fire.
	Friction Joints (e.g. band clamps) may be used as allowed in NFPA 30 27.5.3.
E	Metal (including brass/bronze) valves and fittings are acceptable for use without needing to meet other requirements of NFPA 30 27.4.3.
	Use of other than metal valves and fittings must meet the requirements of NFPA 30 27.4.3.
F	Pump to carry a listing for use with fuel being pumped.
	Pump to be installed per manufacturer instructions.
	Pump are not otherwise regulated.
G	Flex lines may be used between pumps and piping system as well as between generator engine and piping system.
	Connection of flex lines to piping system to be per NFPA 37 6.8.1 [NFPA 30 27.5].
	Flex lines are not to be used at piping changes in direction.
H	Atmospheric (normal) and Emergency vent piping to be steel per NFPA 37 6.7.1 [NFPA 30 27.4.4.2].
	Atmospheric and Emergency vents to terminate outside the building per NFPA 37 6.7.1.1, except that where a day tank is located inside an unoccupied space (generator enclosure) the atmospheric vent is to terminate outside the enclosure but the emergency vent(s) may terminate inside the enclosure.
	Atmospheric vent should terminate 3 feet above any surface that is subject to snow/ice accumulations.