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RegO® Field Topics

LP-Gas Tank Vapor Manifolds

Field Topics are intended to provide useful information to the network of authorized LP-Gas and Anhydrous Ammonia distributors regarding the proper use of RegO® products. **Warning Bulletins** covering many of the hazards involved are available from RegO for more detailed information. These bulletins can be found in our **L-500, L-102 and NH3-102** catalogs. Neither the Field Topic or the Warning Bulletins are intended to conflict with federal, state, or local ordinances and/or regulations, which should be observed at all times. This information also is not intended to be a substitute for or to supplement any training in the safe handling and use of propane and related equipment, as required by any applicable law. By providing this material, ECI assumes no responsibility for providing any such training. Only individuals properly trained in the safe handling and use of propane and related equipment should be permitted to do so, and by providing this information, ECI does not assume responsibility for providing such training.

For more information on LP Gas system requirements, refer to Liquefied Petroleum Gas Code (NFPA 58), National Fuel Gas Code (NFPA 54), National Propane Gas Association Safety Handbook, the RegO LP-Gas Serviceman's Manual L-545, RegO catalogs L-500/L-102/NH3-102, ANSI K61.1 Safety Requirements for Storage and Handling of Anhydrous Ammonia, as well as any applicable local codes and ordinances.

LP-Gas Tank Vapor Manifolds

It has been a long-standing industry practice to manifold two or more storage tanks together in order to increase a gas system's vaporization capacity. Often, a commercial account makes significant facility renovations and additions – adding gas load. Rather than pumping out and removing existing storage tanks in favor of a single and larger tank, the retailer simply adds an additional tank (or tanks) to meet the new gas demand. This is a common practice. There are many factors to consider when manifold systems are constructed.

This field topic provides installation tips for the manifolding of storage tanks used for vapor withdrawal. It does not cover tanks used for the purpose of liquid withdrawal such as dispensing systems, vaporizer service, etc. The piping and valve requirements for such systems are significantly different than those in vapor systems. Therefore, the information provided in this bulletin may not apply. It is the responsibility of the gas retailer to verify compliance with any local codes and ordinances which may apply, including NFPA 58 Liquefied Petroleum Gas Code.



Section I: Setting the Tanks

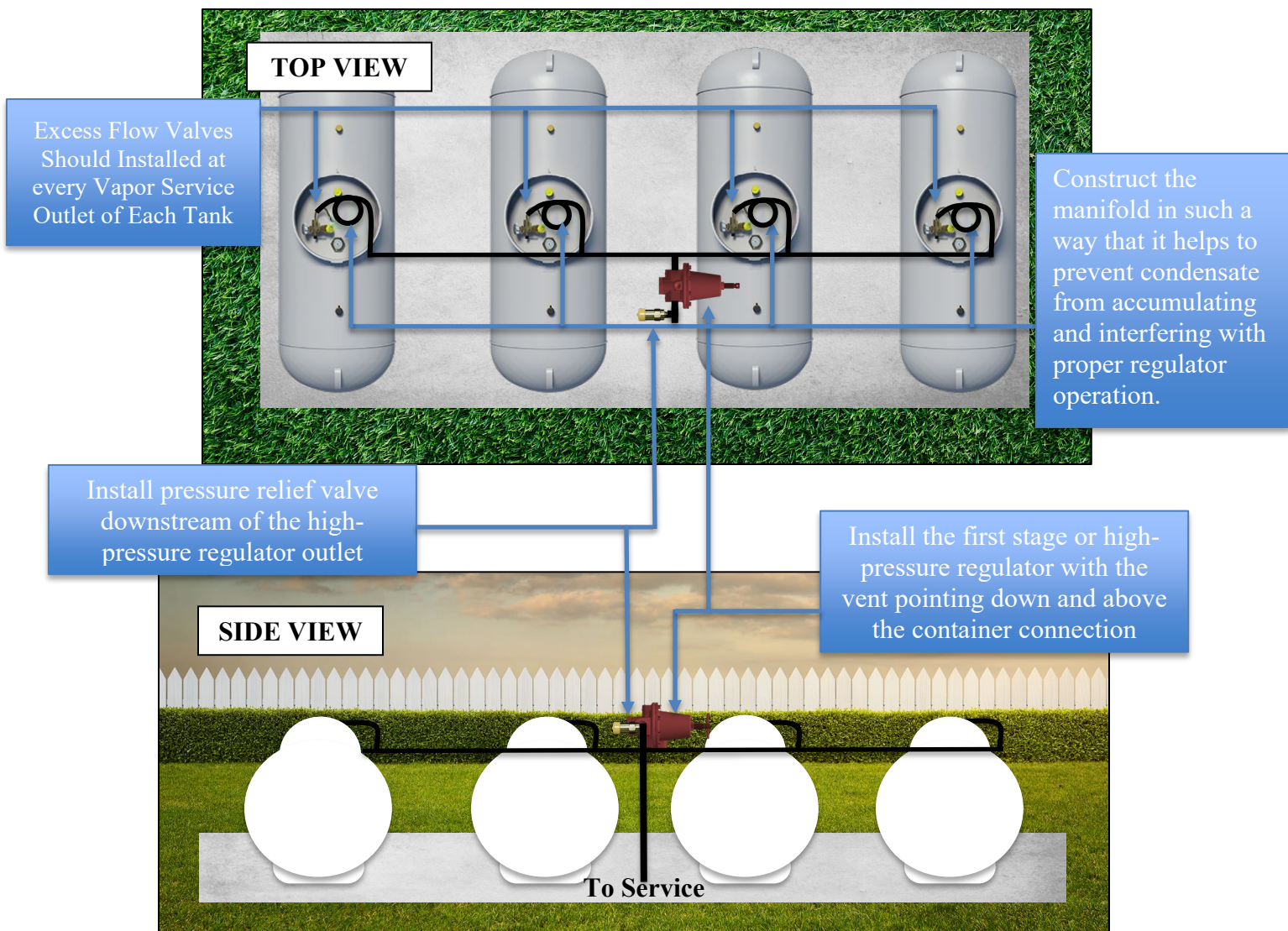
- Tanks must be set on a firm footing and must be properly supported to comply with NFPA 58.
- The maximum filling liquid level of each tank in a multi-tank installation should be on the same elevation.
- Distance requirements between each container, property lines, buildings, etc. can be found in NFPA 58 and must be followed.

Section II: Constructing the Manifold

- Construct the manifold in such a way that it helps to prevent condensate from accumulating and interfering with proper regulator operation.
- An excess flow valve must be installed on the outlet side of each tank's vapor withdrawal valve. Excess flow valves are available with M.POL by NPT connections.
- Connect one end of a suitable connector, such as copper tubing to the outlet side of the excess flow valve. Connect the other end to the manifold as illustrated.
- All threaded piping leading in to the first stage regulator must be schedule 80. All fittings must be 250 PSI min.
- Install the first stage or high-pressure regulator with the vent pointing down, and/or under a protective cover. Be sure that the regulator is adequately supported. High-pressure regulators require a relief valve downstream of the regulator outlet
- On underground tanks the regulator may be installed inside one of the tank domes, or a regulator housing box may be used. Install the regulator so the vent is above the highest possible water level.
- Manifold piping should be of adequate size to supply the gas load during peak demand.

Section III: Start Up

- After the final connection has been made, leak test the entire system for compliance with established company procedures, all local codes, and NFPA 58. For more information, see NFPA 54, the National Fuel Gas Code, NFPA 58, and RegO Products LP-Gas Service Manual L-545.
- Properly purge any residual air or inert gas from the system. See NFPA 54 and NPGA Safety Bulletin # 410-92.
- Set up system according to appliance or equipment manufacturer's instructions. Properly adjust all regulators according to appliance or equipment manufacturer's instructions. Do not exceed regulator delivery pressure limits specified in NFPA 58.
- If the system does not function properly, close all valves, including those at the tanks, and contact supervisor



Should you have any questions or concern, please contact me.

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