Alliant Energy - Gas Service Manual
Chapter 2 – Protecting Gas System From Backpressure or Vacuum

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BACKPRESSURE PROTECTION

A. Backpressure protection must be installed when gas utilization equipment is connected in such a way that air, oxygen, stand-by gases, or fuels could be forced into the Company's gas supply system. Suitable protective devices shall be installed as close to the utilization equipment as practicable. Gas and air combustion mixers incorporating double diaphragm "zero" or "atmosphere" governors or regulators require no further protection unless connected directly to compressed air or oxygen at pressures of 5 psig or more (NFPA 54, Section 5.7.4).

B. In order to prevent flow back into the Company's meter when liquefied petroleum gas or other supplementary gas is used as a standby fuel source by the customer, a three-way valve may be substituted for a check valve, if desired, in order to admit the standby gas supply while shutting off the natural gas supply (NFPA 54, Section 5.3.2).

C. Natural gas compressors shall be connected to the Company's system through a check valve capable of withstanding the outlet pressure of the compressor.

LOW PRESSURE OR VACUUM PROTECTION

A suitable protective device shall be installed between the meter and the gas utilization equipment if the operation of the equipment is such that it may produce a vacuum or a dangerous reduction in gas pressure at the meter (i.e. gas compressors). Such devices include, but are not limited to, mechanical, diaphragm-operated, or electrically operated low-pressure shut-off valves.

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