

## Inspection and Technical Services

### Gas Equipment Bulletin

### GRAIN DRYER PRESSURE REGULATOR REQUIREMENTS

ITS 22-009

#### PURPOSE

The purpose of this bulletin is provide clarification on pressure regulator requirements for Crop Dryers Certified to the CSA 3.8 Standard for Gas-fired equipment for drying farm crops. In particular, the requirement for regulating gas in the vapor state at point of delivery.

#### APPLICABLE CODE

##### **CSA 3.8-14: Gas-fired equipment for drying farm crops**

##### 4.19.2

Natural gas and vapor propane

For natural gas or vapor propane, an appliance pressure regulator and/or over pressure protection device located upstream of the pipe train components shall be supplied with each dryer. The over pressure protection device shall be set at a pressure such that the protected outlet pressure that can be generated will not exceed the pressure rating of the lowest-rated component.

#### CLARIFICATION

When vapor fuels are used as a fuel source (either natural gas or propane that has already been vaporized external to the dryer), The CSA 3.8 Standard still requires that a regulator be present to regulate the pressure of the vaporized fuel. This can be achieved in one of two ways:

- a. If the regulator is supplied as part of the certified equipment, ensure the regulator is set up according to the manufacturers' instructions.
- b. If the manufacturer does not supply the regulator, a regulator may be installed in the supply piping before the point of connection at the dryer. Even in this case, the precaution of having an over pressure protection device is required.

The key piece is that there must be a regulator controlling the fuel pressure, but for dryers that receive vaporized fuel directly, the option is if a regulator is part of the incoming fuel supply line instead of part of the dryer appliance pipe train.

The intent of CSA 3.8 Clause 4.19.2 is to provide options for the physical location of the regulator, which is utilized to control safely the gas pressure throughout the entire firing rate of the burner. This can be accomplished whereby a licensed Gasfitter/Mechanical contractor installs a certified regulator downstream of the suppliers regulating devices and upstream of the dryer point of connection.

**Note; The regulator shall be sized to maintain all gas pressure and flow rates throughout the entire cycle of the crop dryer as specified by the manufacturer of said dryer.**