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CONVERTING METHANE POWERED ACTUATORS TO ZERO-EMITTING TECHNOLOGIES

ACHIEVE ESG GOALS

January 20, 2021: Executive Order 13990 directs the EPA to develop regulations to significantly reduce oil/gas producer's methane emissions. EO 13990 identifies the conversion of pneumatic controllers to zero-emitting technologies, and the elimination of associated gas venting. This would regulate for the first time, methane driven pneumatic actuators which vent methane directly to atmosphere.

Who We Are: Hybrid Automation converts methane powered pneumatic actuators to a zero fugitive emission system. Based on a closed loop, no vent to atmosphere platform, our controller connects directly to the intake and exhaust ports of existing pneumatic actuators, regardless of manufacturer or actuator type.

Methane Use by Producers: Fugitive emissions of methane come from multiple sources. Venting methane directly to atmosphere from methane powered pneumatics has been a common practice by producers for decades. This form of venting represents the single largest source of fugitive emissions from a pneumatic actuator. Reducing methane releases to atmosphere will continue to be a contentious topic, regardless of who sits in the White House.

Producer Options: Oil/gas producers have invested heavily in R&D to address existing and new EPA/Clean Air Act regulatory directives. Long term options being considered by producers must be cost effective, reliable, maintenance free, easy to implement and provide tangible results mitigating methane venting to atmosphere. Few viable options have surfaced.

The Solution: Our technology converts existing methane powered pneumatic actuators to a closed loop, no vent to atmosphere operating system. Based on a simple low voltage solar capable operating platform, compressed air is generated and stored. It's then delivered to the actuator while the exhaust is simultaneously recovered and reused. There is zero reliance on external sources of pressure. Our technology eliminates methane as a means to power existing pneumatic actuators, regardless of pneumatic manufacturer or actuator type. Discrete on/off and modulating application are available. Existing single acting pneumatics will continue to function as a single acting, failsafe device.

Benefits of a Closed Loop Air Transfer System: In addition to a 100% reduction of methane venting to atmosphere from gas powered pneumatics, Hybrid Automation eliminates the gas line used to power the pneumatic actuator. Because the same air is recycled and reused, any contaminants originating from the wellhead are eliminated. Hybrid Automation's operating system ensures existing pneumatic actuator and valve packages remains intact; no replacement required. Using a third-party automated valve package, we conducted 200,000+ continuous cycles with zero failures.

How Long Has This Technology Been Available: Since March 2022, Hybrid Automation technology has been available to oil/gas producers, providing 100% reduction of methane venting to atmosphere from gas powered pneumatics. As a maintenance free system, our controller has no software or printed circuit boards. Our technology has worldwide implications to reduce methane releases to atmosphere. The issue is real, so is the solution.

Achieve ESG Goals: Producers who embrace environmentally sound solutions to reduce methane emissions exemplify the leadership which guide the oil/gas industry. Eliminating methane venting to atmosphere from methane powered actuators provides significant, tangible and lasting results to achieve ESG goals.