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To: Rules Coordinator
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Comments Form for Proposed Rulemakings

Date Submitted

Thursday, October 17, 2019 2:24:55 PM

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Amend Chapter 9--HB 2714 (2019), NFPA updates, and other clarifications

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Dear Commissioner Christi Craddick,
Commissioner Wayne Christian, &
Commissioner Ryan Sitton

Find below two recommendations for Amendments to the Current Railroad Commission Chapter 9 Safety Rules. By amending the current rules during this cycle of rule amendments will relieve all marketers from having to invoke the Equivalency section of NFPA 58 (2017 Ed), Section 1.5 and submitting Form 25's to the Commission to be able to enhance the safety of LPG transfer with current safety technology not recognized by current rules that have not

been substantive updates in 20 years.

1) The first submission can be corrected with one or two options: (1) Amend Section 9.143,(d)(7)(E)(i-ii) and/or (2) Section 9.143,(d)(8), to allow use of an engineered safety breakaway riser (adapter/coupler) on bulkheads as an option to the 12 inch, schedule 80 nipple, which is NOT an engineered breakaway. Current Commission interpretation is preventing the use of these engineered safety devices; requiring an un-engineered pipe nipple. The SmartHose riser breakaway adapter/coupler is designed for any hazardous transfer application that has a potential for a pull-away incident. It is designed with an engineered break-point; the riser pipe break-away coupler can protect plant piping, bulkhead piping, tank truck piping and loading arms from the devastating consequences associated with pull-away incidents. The riser pipe break-away coupler offers the solution to the Railroad Commission of Texas' intent of establishing a weak link at the bulkhead in transfer operations; but, as an engineered solution, not an un-engineered mandate as the rules currently require. The SmartHose riser pipe break-away coupler offers full-flow break-away protection that requires no annual plant maintenance. The riser pipe coupler also provides full back-check closure and protection for both the truck side and plant side of the separation point; preventing discharge from both the truck and storage tank or plumbing.

- Amend Section 9.143,(d)(7)(E)(i), to allow use of an engineered break-away safety system (adapter/coupler) to be utilized in lieu of the non-engineered scheduled 80 nipple. Per NFPA 58, Section 1.5 Equivalency, an engineered break-away safety system (adapter/coupler) allows enhancement of the minimum regulatory requirement as opposed to preventing use of enhanced, engineered safety equipment with a non-engineered requirement. The section should read as follows: (i), a minimum 12-inch schedule 80 threaded (not welded) pipe riser (nipple) or engineered break-away adapter/coupler, and an elbow or other fitting between the bulkhead and hose coupling;

- Amend Section 9.143,(d)(7)(E)(ii), to allow use of an engineered break-away safety system (adapter/coupler) to be utilized in lieu of the non-engineered scheduled 80 nipple. The section should read as follows; (ii).....; however, the minimum 12-inch length of schedule 80 threaded pipe riser or engineered break-away adapter/coupler, and an elbow or other fitting between the bulkhead and hose coupling are required;

- Amend Section 9.143,(d)(8), to allow use of an engineered break-away safety system (adapter/coupler) to be utilized in lieu of the non-engineered scheduled 80 nipple. The section should read as follows; (8) In lieu of a minimum 12-inch nipple or engineered break-away adapter/coupler on a vertical bulkhead, swivel-type piping (breakaway loading arm) may be installed. The swivel-type piping shall meet all applicable provisions of the rules in this chapter. The swivel-type piping may also be used for loading, unloading, or product transfer, but shall not be used in lieu of ESVs. The swivel-type piping shall be installed and maintained according to the manufacturer's instructions.

- ALTERNATIVE: Amend Section 9.143,(d)(8), to allow use of an engineered break-away safety system (adapter/coupler) to be utilized in lieu of the non-engineered scheduled 80 nipple. The section should read as follows; (8) In lieu of a minimum 12-inch nipple on a vertical bulkhead, swivel-type piping (breakaway loading arm) or engineered break-away adapter/coupler may be installed. The swivel-type piping or engineered break-away adapter/coupler shall meet all applicable provisions of the rules in this chapter. The swivel-type piping may also be used for loading, unloading, or product transfer, but shall not be used in lieu of ESVs. The swivel-type piping or engineered break-away adapter/coupler shall be installed and maintained according to the manufacturer's instructions.

2) Amend Section 9.126(d)(1)(A)(i) and Section 9.143,(a)(2)(A) and Section 9.143,(a)(2)(B) and Section

9.143,(a)(2)(C) and to allow use of Electric fail-safe closed actuators on ESV's and Internal valves; by changing the language it will allow use of multiple proven enhanced safety technologies. To follow the intent of the Commission, an additional prohibition can be added to continue to restrict the use of cable actuation. In the proposed Section 9.403 Table-Sections in NFPA 58, 2017 Edition, Not Adopted by Reference, or Adopted With Changes, Additional Requirements, or Corrections (Revised September 2019); it references Section 6.27.3.8 (1) & (2) with 'no change'.

This section allows use of internal valves fitted for remote closure and automatic shutoff using thermal (fire) actuation – which DOES allow use of electric actuators. This precedent demonstrates the need to update and amend the types of actuation allowed on internal valves and ESV's. Today, dispenser package fabricators are building integrated systems that are electrically controlled and plant builders are utilizing sophisticated safety monitoring/alert/activation systems that are fully electronic and incorporate electrical/electronic controls and actuation. It is time to update/amend rules to allow utilization of next-generation safety control systems. RE: RegO

- Amend Section 9.126(d)(1)(A)(i), by adding “or electrically” between “pneumatically” and “operated”; should read as, (i) a pneumatically or electrically operated internal valve equipped for remote closure and automatic shutoff using thermal (fire) actuation where the thermal element is located within five feet (1.5 meters) of the internal valve;.....

- Amend Section 9.126(d)(1)(D), by adding “or electrically” between “pneumatically” and “actuated”; should read as, (D).....which shall be pneumatically or electrically actuated and shall fail in the closed position.

- Amend Section 9.126(d)(2)(B), by adding “or electrically” between “pneumatically” and “operated”; should read as, (B) a pneumatically or electrically operated internal valve with an integral excess-flow valve or excess-flow protection; or.....

- Amend Section 9.143,(a)(2)(A), by adding “or electrically” between “pneumatically” and “-operated”; should read as, “(A) pneumatically or electrically operated emergency shutoff valves (ESV);”

- Amend Section 9.143,(a)(2)(B), by adding “or electrically” between “pneumatically” and “-operated”; should read as, “(B) pneumatically or electrically operated internal valves;”

- Amend Section 9.143,(a)(2)(C), by adding “or electrically” between “pneumatically” and “-operated”; should read as, “(C) pneumatically or electrically operated API 607 ball valves; or”

- Amend Section 9.143,(g), by adding “or electrically” between “pneumatically” and “-operated”; should read as, (g) If necessary to increase LP-gas safety, AFS may require a pneumatically or electrically -operated internal valve equipped for remote closure and automatic shutoff through thermal (fire) actuation to be installed for certain liquid and/or vapor connections with an opening of 3/4 inch or one inch in size.

- Remove reference of “pneumatic” from Section 9.143,(b)(1), it is unnecessary, as referenced in text in Remove reference of “pneumatic” from Section 9.143,(b)(2).

- Remove reference of “pneumatic-operated” from Section 9.143,(b)(3), it is unnecessary.

- Remove reference of “pneumatic-operated” from Section 9.143,(b)(5)(C), it is unnecessary.

- Remove reference of “pneumatic” from Section 9.143,(c), it is unnecessary.

- Replace reference of “pneumatically-operated” from Section 9.143,(d)(2)&(3)&(4), with “pneumatically or electrically operated”.

- Amend/Remove references of “pneumatic” from sections where unnecessary. By reference in Sections 9.143,(a)(2)(A) and 9.143,(a)(2)(B) and 9.143,(a)(2)(C) the use of ESV's and Internal Valves can be Pneumatically or Electrically actuated.

- The addition of “or electrically” could be detailed to “or electrically (fail-safe closed)”.

Below is justification of these two requested amendments individually.

1) On bulkheads the stipulation that a riser must incorporate a minimum 12 inch schedule 80 nipple as a riser is a non-engineered specification. The amount of force to shear a 3/4 inch schedule 80 nipple versus a 3 inch schedule 80 nipple is very broad and is even worse when both a vapor and liquid connection exist during a pullaway. The use of an engineered safety break-away system (coupler) provides an assured sense of improved safety by documenting the amount of force that will be required to shear the breakaway in the event of a pullaway. The engineered breakaway coupler is designed specifically for this purpose, whereas a 12 inch schedule 80 nipple is just a piece of a transfer piping system, designed NOT to break. When the original rule was adopted, engineered breakaway systems apparently were not available, but are now, from multiple manufacturers. The original intent of the use of a minimum 12 inch schedule 80 nipple was to provide a weak link, albeit a non-engineered weak link. The current engineered breakaway systems (couplers) were designed/engineered for that very specific purpose. BUT, current language in the rule PROHIBITS the use of these engineered safety systems (couplers); it is time to revise the rule to ALLOW use of enhanced safety systems; NOT PREVENT/PROHIBIT their utilization. You don't have to use them; but for those installations that want to, why prevent enhancing safety utilization?

2) In addition to the justification above, current language in safety regulations do NOT allow use of additional new enhanced safety equipment, but current rules PROHIBIT the use due to the specific language in the rule. Rules are meant to set a minimum safety standard, not a maximum level that prevents/prohibits the use of new and enhanced safety capabilities. It is time to amend rules to allow use of newer technologies which are allowed with the NFPA 58, Section 1.5 Equivalency section.

Manufacturers have developed new actuation capabilities for Internal valves and Emergency Shutoff valves incorporating electric fail-safe closed actuators; which can be interfaced with sophisticated safety control systems. These fully integrated safety control systems are being utilized in loading racks, processing/refining plants, bulk storage facilities and are finding their way into progressive independent marketer locations; but are prevented to be used in Texas with current restrictive regulatory language. In NFPA 58, the reference of "remote closure" is used that allows multiple types of actuation for ESV's and internal valves; but Texas language restricts use of only pneumatic actuation. Fail-safe closed electrically actuated ESV's and internal valves allow full integration into a sophisticated safety control system in lieu of having to piece-mill additional components and additional systems to provide overall integrated control and emergency shutdown; which adds more pieces to potentially fail, when needed.

The solution is as simple as editing the use of "pneumatically-operated" to "remote closure" used by NFPA 58 to allow use of this or new UL-Listed enhanced safety equipment. I understand Rules are designed to require a MINIMUM safety standard; but the current nomenclature used in some of the Texas Safety rules end up accomplishing the opposite by RESTRICTING the use of enhanced safety equipment, such as the reference above. By stating "pneumatically-operated" it does not allow use of UL Listed electrically controlled fail-safe closed ESV's and Internal Valves; whereas the language in NFPA 58 "remote closure" does allow the utilization of this technology which can be interfaced into sophisticated safety control systems. An additional restriction prohibiting the use of cable actuation would preserve the original intent of the Commission when these rules were adopted twenty years ago. Or, just adding language to allow use of electric fail-safe closed actuated ESV's and internal valves is the option I proposed at the top.....I would prefer language similar to NFPA 58, but either strategy will

work.

Respectfully submitted in an effort to enhance the overall safety of the LPG industry.

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