U.S. Department
of Transportation
Pipeline and Hazardous Materials
Safety Administration

1200 New Jersey Avenue SE
Washington DC 20590

DEC 07 2017

Mr. John A. Jacobi
Vice President and Principal
G2 Integrated Solutions
10850 Richmond Avenue, #200
Houston, TX 77042

Re: Petition for Finding

Dear Mr. Jacobi:

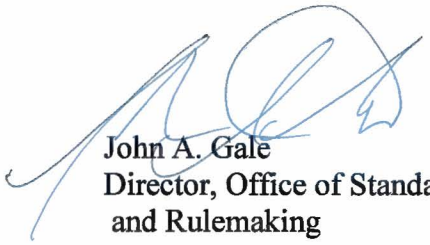
On June 28, 2017, pursuant to 49 C.F.R. § 190.9, G2 Integrated Solutions, on behalf of Olin Pipeline Services (G2) filed a petition for a finding or approval (Petition) to use its proposed methodology to calculate the Potential Impact Radius (PIR) of non-flammable gas anhydrous hydrogen chloride (HCL). Specifically, G2 requested a finding allowing the use of the PIR factor published by Pipeline and Hazardous Materials Safety Administration (PHMSA) in TTO-13 for hydrogen, the urban setting PIR for chlorine published in TTO-14, and the TTO-14 protocol to calculate the PIR factor for the urban setting for anhydrous HCL. The resulting PIRs would then be used to identify Part 192 High Consequence Areas using 49 CFR § 192.903, Method 2.

Section 190.9 provides that in circumstances where a rule contained in parts 192, 193 and 195 of the pipeline safety regulations authorizes the Administrator to make a finding or approval, an operator may petition the Administrator for such a finding or approval. The petition must refer to the rule authorizing the action sought and contain information or arguments that justify the action.

Having reviewed G2's request, PHMSA has determined that it does not meet the requirements set forth in § 190.9 for a petition for finding or approval, because G2 has failed to identify a rule authorizing the action sought. The integrity management regulation cited, § 192.903, does not authorize the Administrator to make a finding or approval with respect to using alternative means to calculate PIR. Rather the regulation specifies how PIR must be calculated for the purpose of identifying high consequence areas.

If you have any questions or would like to discuss further, please contact Tewabe Asebe at 202-366-5523.

Sincerely,



John A. Gale
Director, Office of Standards
and Rulemaking

G2 INTEGRATED SOLUTIONS

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June 28, 2017

Stephanie Weidman, PHMSA Program Director Via e-Mail
Railroad Commission of Texas
P.O. Box 12967
Austin, Texas 78711-2967

Re: Request for finding or approval under 49 CFR §190.9
Olin Pipeline Services (A Division of Olin Corporation)
2301 N. Brazosport Blvd., B-101 #38
Freeport, TX 77541
PHMSA OPID 39376
T4 Permit Number #09681 (gas lines)

Dear Ms. Weidman:

G2 Integrated Solutions (G2) has been retained by Olin Pipeline Services (Olin) to request a finding pursuant to 49 CFR §190.9(a):

> *(a) In circumstances where a rule contained in parts 192, 193 and 195 of this chapter authorizes the Administrator to make a finding or approval, an operator may petition the Administrator for such a finding or approval.*

The Railroad Commission of Texas (RRC) is receiving this request because the lines affected (see below) are intrastate Part 192 pipelines under the primary jurisdiction of the RRC and 49 CFR §190.9(b)(1) requires operators seeking a finding or approval involving intrastate pipeline transportation to send such requests to the State agency certified to participate under 49 U.S.C. 60105 - in this case, the RRC.

Background

Olin recently acquired a number of pipelines from the Dow Chemical Company, Texas Operations and is in the process of conducting a compliance audit under the Texas Environmental, Health and Safety Audit Privilege Act. G2 has been and is assisting Olin in conducting the compliance audit.

For purposes of 49 CFR Part 192, Subpart O - Gas Transmission Pipeline Integrity Management, Olin has elected to use Method 2 (49 CFR §192.903) to define high consequence areas:

> *(2) The area within a potential impact circle containing-*
>
> *(i) 20 or more buildings intended for human occupancy, unless the exception in paragraph (4) applies; or*
>
> *(ii) An identified site.*

The following 49 CFR §192.903 definitions are relevant to this request:

> *Potential impact circle* is a circle of radius equal to the potential impact radius (PIR).
>
> *Potential impact radius (PIR)* means the radius of a circle within which the potential failure of a pipeline could have significant impact on people or property. PIR is determined by the formula r = 0.69* (square root of ($p*d^2$), where 'r' is the radius of a circular area in feet surrounding the point of failure, 'p' is the maximum allowable operating pressure (MAOP) in the pipeline segment in pounds per square inch and 'd' is the nominal diameter of the pipeline in inches.
>
> > Note: 0.69 is the factor for natural gas. This number will vary for other gases depending upon their heat of combustion. An operator transporting gas other than natural gas must use section 3.2 of ASME/ANSI B31.8S-2001 (Supplement to ASME/ANSI B31.8; (incorporated by reference, see §192.7) to calculate the impact radius formula.

This request arises because of PHMSA's response to Gas IMP FAQ 144:

> What is the preferred method for calculating the Potential Impact Radius (PIR) of a leak of a non-flammable gas within the context of Pipeline Integrity Management?
>
> The regulation refers to ASME B31.8S-2001 Section 3.2 for calculation of PIR for gases other than natural gas. However, this document only deals with flammable gases. ASME B31.8S-2001 allows alternate models to be used for calculating impact radius, but provides no guidance as to preferred methods of modeling non-flammable or corrosive gases. [10/25/2004]
>
> The potential impact circle concept is only applicable for flammable gases. Operators of pipelines carrying non-flammable gases must consider their entire pipelines as if they were in high consequence areas, or they may apply for a waiver to use another method that they may propose for defining HCAs. (emphasis added)

In January, 2005 (subsequent to publishing FAQ 144), PHMSA published TTO Number 14, Derivation of Potential Impact Radius Formulae for Vapor Cloud Dispersion Subject to 49 CFR §192 (TTO-14, available at https://primis.phmsa.dot.gov/gasimp/docs/TTO14_finalreport_January2005.pdf).

Very briefly, TTO-14 developed simplified PIR formulae for non-flammable hazardous/toxic products using the US Environmental Protection Agency's (EPA) "Risk Management Program Guidance for Offsite Consequence Analysis." (RMP Guidance). In other words, TTO-14 established a scientific basis for calculating CFER PIR factors (0.69 for natural gas) for toxic but non-flammable gasses. . Note that the RMP guidance results in the calculation of two factors for each toxic endpoint – one for rural settings and one for urban settings. The resulting PIRs for rural settings are somewhat larger based on the theory that rural settings are

flat and offer less resistance to dispersion of vapor clouds. It is Olin's position that a refinery/chemical manufacturing facility more closely resembles EPA's urban setting.

One of the non-flammable gasses transported by Olin, chlorine, was specifically addressed by TTO-14. Another, anhydrous HCL, was not. A third gas, hydrogen, is a flammable gas and its CFER PIR factor was specifically calculated in TTO-13 consistent with the methodology of section 3.2 of ASME/ANSI B31.8S-2001 (https://primis.phmsa.dot.gov/gasimp/docs/TTO13_PotentialImpactRadius_FinalReport_June2005.pdf)

The Specific Lines in Question

Using published data for PIR factors for hydrogen and chlorine and the TTO-14 protocol for calculating both the rural and urban settings for anhydrous HCL yield the following PIRs for each of the Olin Part 192 lines subject to 49 CFR Part 192:

#	DPL Line Number	Product	Diameter (1) (inches)	MAOP (2) (PSIG)	TTO 14 PIR Coefficient (3)	PIR (FEET)(7)
1	28	Chlorine	16	150	0.38/0.16	75/32
2	130	Chlorine	16	200	0.38/0.16	86/37
3	246	Anhydrous HCL	24	650	0.07/0.06 (6)	46/35 (6)
4	261	Anhydrous HCL	12	650	0.08/0.06 (6)	24/19 (6)
5	331	Chlorine	12	150	0.38/0.16	56/26
6	406	Hydrogen	30	13	0.47 (5)	51

Notes:

1. Diameter of largest segment.
2. MAOP based on 49 CFR 192.619.
3. TTO 14 = PHMSA Final Report Derivation of Potential Impact Radius Formulae for Vapor Cloud Dispersion Subject to 49 CFR 192. (rural conditions/urban conditions)
4. PIR Coefficient for natural gas is 0.69 (49 CFR 192.903).
5. PIR Coefficient for hydrogen is 0.47 (TTO 13 - CFER Other Gasses Report).
6. Calculated based on TTO 14 protocol.
7. Rounded up to nearest foot. PIR= PIR coefficient*(square root of (p*d2))

Request

Olin hereby requests permission to use the PIR factor published by PHMSA in TTO-13 for hydrogen, the urban setting PIR for chlorine published in TTO-14, and the TTO-14 protocol to calculate the PIR factor for the urban setting for anhydrous HCL. The resulting PIRs will be used to identify Part 192 High Consequence Areas using 49 CFR §192.903, Method 2.

Please note that, under 49 CFR §190.9, the RRC must provide the Associate Administrator for Pipeline Safety (Alan Mayberry) a written recommendation as to the disposition of this request for finding. If PHMSA does not reverse or modify the RRC's recommendation within 10 business days of its receipt, the RRC's recommendation shall constitute PHMSA's decision.

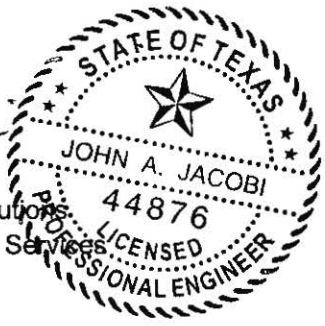
Closing

Olin maintains all its lines to OSHA PSM standards. Where the pipeline safety regulations (49 CFR Parts 190 -199) impose different or additional requirements, Olin complies with those different or additional requirements as well. The PIRs proposed above are consistent with the best available scientific data currently available and, at least in my opinion, consistent with the goal of providing reasonable protection of both human health and the environment and the integrity of the lines themselves as authorized and required by the pipeline safety statutes (49 USC §60101 *et.seq.*), the pipeline safety regulations (49 CFR Parts 190 -199) and the Texas Administrative Code (16 TAC Chapter 8).

Your prompt consideration of this request would be very much appreciated.

Please do not hesitate to contact the undersigned should you have any questions (cell 832-712-3098, e-mail john.jacobi@g2-is.com).

Thank you very much,



John A. Jacobi, P.E., J.D.
Vice President, G2 Integrated Solutions
For and on behalf of Olin Pipeline Services

CF: Terry Fassnidge (Olin)
Randal Anderson (Olin)