Mr. Jody R. Arner  
Air Products and Chemicals, Inc.  
7201 Hamilton Boulevard  
Allentown, PA 18195-1501  

Dear Mr. Arner:

In a letter to the Pipeline and Hazardous Materials Safety Administration (PHMSA) dated September 18, 2014, you requested an interpretation on the manner in which structures are counted for purposes of determining class location along a gas pipeline. Specifically, your questions involved the use of "clustering" of buildings as referenced in 49 CFR 192.5(c)(2). In particular, you asked whether there is any overall length limit to the application of clustering.

You provided an example diagram (attached) and explained the diagram as a hypothetical cluster of buildings extending for 1.15 miles in a Class 3 location. You stated that because the length exceeds 1 mile, you would like to know if clustering is allowed under § 192.5(c) to end the Class 3 location at 220 yards from the end of the 1.15 miles. You stated that there are few structures on either end of the cluster in the example you provided, but not within 220 yards at the end of the 1.15 miles. You stated that if any structure(s) would be present outside of the 220 yards that would result in a Class 3 sliding mile count, then that structure(s) would be given Class 3 status over the appropriate length as required.

Under § 192.5(a), the class location unit establishes the class location, identifying the highest concentrations of dwellings along the pipeline in a continuous mile of pipeline. As you slide the class location unit down the pipeline for 220 yards, as soon as you encounter a higher concentration of dwellings, you have a higher class location (see Graphic 1). Section 192.5(c) allows an operator to cluster or reduce the amount of pipe that is subject to the requirements of a higher class location.

A Class 3 location can be longer than a mile or shorter than a mile when using the clustering method. As illustrated in Graphic 2, if a class location unit is determined to be Class 3 with a group of homes on one end (A) and a group of homes on the other end (B), the amount of pipeline that would be subject to Class 3 requirements can be reduced by the application of clustering. To cluster, the operator could establish the Class 3 location limit 220 yards on the upstream side of (A) and 220 yards on the downstream side of (A). The same would be repeated for (B) at the other end of the class location unit. The pipeline between these two clusters is still in a Class 3 location; it is just not subject to the requirements of a pipeline in a

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Class 3 location. If the 220 yard limits intercept or overlap between the two clusters, then clustering between the two groups would not be applicable and the entire length of the pipeline from 220 yards upstream of (A) to 220 yards downstream of (B) would be subject to the Class 3 location requirements.

**Class Location Unit Application**

![Class Location Unit Application Diagram]

In the above example use the highest Class location

**Clustering**

One (1) Mile Segment

Class 3 (Established by the Class Location Unit)

Group A

220 yards

9

46

220 yards

Any additional dwelling outside Group A in the 1-mile segment would be classified a Class 3 location as described by example Group B above.

Class 3

Group B

220 yards

220 yards

220 yards

Class 3

Class 1

Class 3

Class 1

Cluster – Class 3

Cluster – Class 3

**Graphic 1**

**Graphic 2**

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We hope this clarifies the application of clustering in § 192.5(c). If we can be of further assistance, please contact Tewabe Asebe of my staff at 202-366-5523.

Sincerely,

[Signature]

John A. Gale
Director, Office of Standards and Rulemaking

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Ref.: Request by Air Products and Chemicals, Inc., for interpretation on the use of clustering as defined in 49 CFR Part 192, section 192.5(c)(2).

Dear Sir/Madam:

Air Products and Chemicals, Inc., is requesting an official interpretation on the use of clustering as defined in 49 CFR Part 192, section 192.5(c)(2). Our general question is related to whether or not there is any overall length limit to the application of clustering. There may be situations considered for clustering where there is a group of buildings determined to be class 3 that extends for more than 1 mile. Can class 3 end at 220 yards from the structures at each end of that section, or must it be carried out to the distance where the actual structure count drops to class 2?

Please refer to the enclosed example diagram (Exhibit A) for detail and clarification for this interpretation. In this example, the specific question would arise as a result of the obvious 1.15 mile length of class 3 between points A and B. Given that that length exceeds 1 mile, is it allowable to apply clustering to end the class 3 at 220 yards west of point A and 220 yards east of point B, or must the class 3 be extended to the boundary of the sliding mile on each end?

Please note that there are few structures on either end of the grouping in this example, and as indicated there are none within 220 yards. If any structure(s) would be present outside of the 220 yards that would result in a class 3 sliding mile count, then that structure(s) would be given class 3 status over the appropriate length as required.

Please contact me with any additional questions or if any additional information is required to provide this interpretation.

Sincerely,

Jody R. Arner

Air Products & Chemicals, Inc.
Global Operations / Pipeline Maintenance / Project Engineering
Ph. 610-481-1707 Fax: 610-481-8790
e-mail: arnerjr@airproducts.com

Attachment:

1) Exhibit A; diagram of 192.5(c)(2) clustering

- Notes: 1) All structures are single dwelling units within the 220 yard buffer zone.
   2) No structure located between point A and point B has more than 220 yards separation from another structure.