

ZONING

27 Attachment 1

Township of East Coventry

Appendix A Potential Impact Radius (PIR) and Pipeline Class Locations [Added by Ord. 209, 12/12/2016]

Source: “A Model for Sizing High Consequence Areas Associated With Natural Gas Pipelines,” Gas Research Institute and C-FER Technologies, 2000.

The hazard area radius, also referred to as the “potential impact radius (PIR)” or “blast radius,” is calculated by comparing the diameter of a pipeline to its maximum operating pressure (psi). Note that the impact radius increases as operating pressure rises.

Calculating the potential impact radius (PIR) (as measured in feet):

$$\text{PIR} = 0.69 * d * \text{SQRT} (P)$$

Where:

d	=	Diameter of the pipe (inches).
SQRT	=	Square root.
P	=	pressure (psi).

Take the square root of the pressure (if pressure is 100 psi, the square root is 10), multiply by the diameter (inches), then multiply by 0.69. Resulting number is the PIR in feet.

Class Locations:

Many of the inspection protocols through PHMSA and/or PA PUC are based on the pipeline “class location”; in general, class determines pipeline standards and frequency of inspections. Below are listed the various class locations. In essence, Class 3 and 4 areas are places where there would be greater human injury potential from a pipeline incident and therefore require more-vigorous inspection regimes. Class locations are checked routinely and revised based on new development occurring in an area. Class locations are determined by the number of buildings within 660 feet (220 yards) on each side of a pipeline per sliding mile.

Class 1 location — 10 or fewer buildings.

Class 2 location — more than 10 but less than 46 buildings.

Class 3 and 4 locations — more than 46 buildings and buildings with high occupancy (churches, schools, etc.).