PIPELINE SAFETY OBSERVATIONS ON ALGONQUIN INCREMENTAL MARKET (AIM) PROJECT

Accufacts Inc

12/11/13 and 12/12/13 AIM Conference
AIM Project

• Increase Capacity Over Existing Algonquin Gas Transmission System (+ 342 M Dth/d to 2.93 bcf/d)
  • From Ramapo, NY and Mahwah, NJ gas hubs

• Moving Natural Gas West to East
  • Five Existing Compressor Station Modifications (Adding 72,240 hp)
  • Removing some 36-inch, replacing with 42-inch pipe in existing ROWs
  • Other pipe and metering / regulating station changes/additions
  • Basically using existing ROWs with some exceptions

• Project Appears to be Driven by:
  • Tennessee Gas Pipeline / Millennium Pipeline Expansions
  • Marcellus Shale Production
  • Electric Power Plant Cogeneration Changes/Additions/Fuel Conversions
AIM Project Facilities Map

From AIM Resource Report 1 filed to FERC
Key Observations on FERC

• FERC is a Siting Agency, Not a Pipeline Safety Agency
  • Environmental Report doesn’t adequately evaluate pipeline safety
    • FERC usually assumes that compliance with minimum federal pipeline safety regulations is adequate.
  • Related to Public Safety
    • Impose additional safety measures such as distance/route alternative in siting
    • Can require environmental/construction/pipeline routing conditions

• FERC Makes Decision of Public Convenience and Necessity
  • Open Season shows firm commitments for increased capacity
  • Environmental Issues might be balanced against fuel conversion to natural gas from other fuels such as heating oil
    • E.g., electric power plants, homes to natural gas

• Are Environmental / Construction / Routing Impacts Really Adequately Addressed in FERC Filing and EIS?
Leveraging Pipeline Modifications

• Involves 36.7 Miles of Pipeline Within or Adjacent to Existing Algonquin ROWs
  • Some replacement of old pipe with larger pipe
  • Pipeline loops requiring new neighboring ROW
  • New laterals require new ROW (mainly in roads or utility corridors)

• Pipe change driven by specific segment’s actual gas velocity
  • Algonquin has “looped” parallel mainlines
  • No maximum velocity defined in fed minimum pipeline safety regs*

* See Accufacts Filing to FERC Minisink Compressor Project Docket No. CP11-515-000
Pipeline Safety Concerns

• Large Diameter Gas Pipelines
  • No Siting restriction in federal pipeline safety regulations
  • New 42-inch, 850 psig MAOP
    • Commands much respect
      • Rupture releases much tonnage
        • Can generate very large thermal impact areas
        • Blast impacts must be considered for highly sensitive infrastructure
        • Forget C-Fer correlation used in federal pipeline safety integrity management regs
  • Don’t Rupture

• The Mainline Pipe Infrastructure can affect many neighbors
  • Can’t really fence off the pipeline ROW
Compressor Station Safety Concerns

• Federal transmission pipeline safety regulations should limit impact area from station failures
  • Explosions, fire possible, but tonnage much less than mainline rupture
  • A fenced facility under more control of operator

• PHMSA addresses minimum station safety regs, not environmental/noise/appearance issues such as emissions
Other Concerns Raised to Accufacts

• Possible Conflict with Buried 1000 MW Power Line
  • Science to prevent stray current interference well established
    • Required to be addressed in fed. minimum pipeline safety regs
  • Electric ground fault from nearby power line
    • Can cause pipeline failure
    • Rare and depends on soil and proximity

• Threat to Nuclear Plant
  • Separation distance is key for 42-inch rupture
    • The laws of thermodynamics define rupture impact area
    • Nuclear facility survivability needs prudent evaluation!
Accufacts’ Conclusions/Observations

- Pipeline Safety is the Responsibility of the Pipeline Operator - Not PHMSA
  - Current pipeline safety regulations not working properly for various reasons
    - Best Practices not good enough
    - Prudent pipeline operators will substantially exceed federal minimums
  - Suggest Operator not make up answers to public

- AIM Project most likely to be approved by FERC with possible conditions addressing construction/environmental impacts
  - Can Set HDD conditions/distance from critical receptors

- Key CEII Info for AIM not provided nor reviewed by Accufacts
  - Delay in release of such critical system information probably won’t hold up FERC approval
  - Given stated capacity, high velocity within pipeline segments may be a threat risk
    - FERC and PHMSA don’t recognize velocity limits as not in regulations.
Recommendation for Citizen Actions

• Write to FERC before deadline
  • Stay clear, to the point, and professional

• Require 42-inch pipeline location with sufficient distance that cannot seriously impact nuclear sensitive facilities
  • C-fer correlation in fed. reg not appropriate for this infrastructure
  • Distance is “failsafe”

• Algonquin should provide CE II info to permit peak maximum actual gas velocity verifications along system

• Be specific about FERC addressing various possible impacts on environmental requirements