

Pipelines and Pipeline Safety: Land Use & Model Ordinances

Northern Tier Natural Gas Summit for Municipal Officials
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Considerations

- PA sits atop one of the largest deposits of natural gas in the world; volume of gas estimated in PA = more extraction wells than any other state but Texas
- Long term implications – approximately 20 years of drilling and 50 years of extraction
- Deposits predominantly west of Chester County yet more than 25 transmission pipelines cross the county

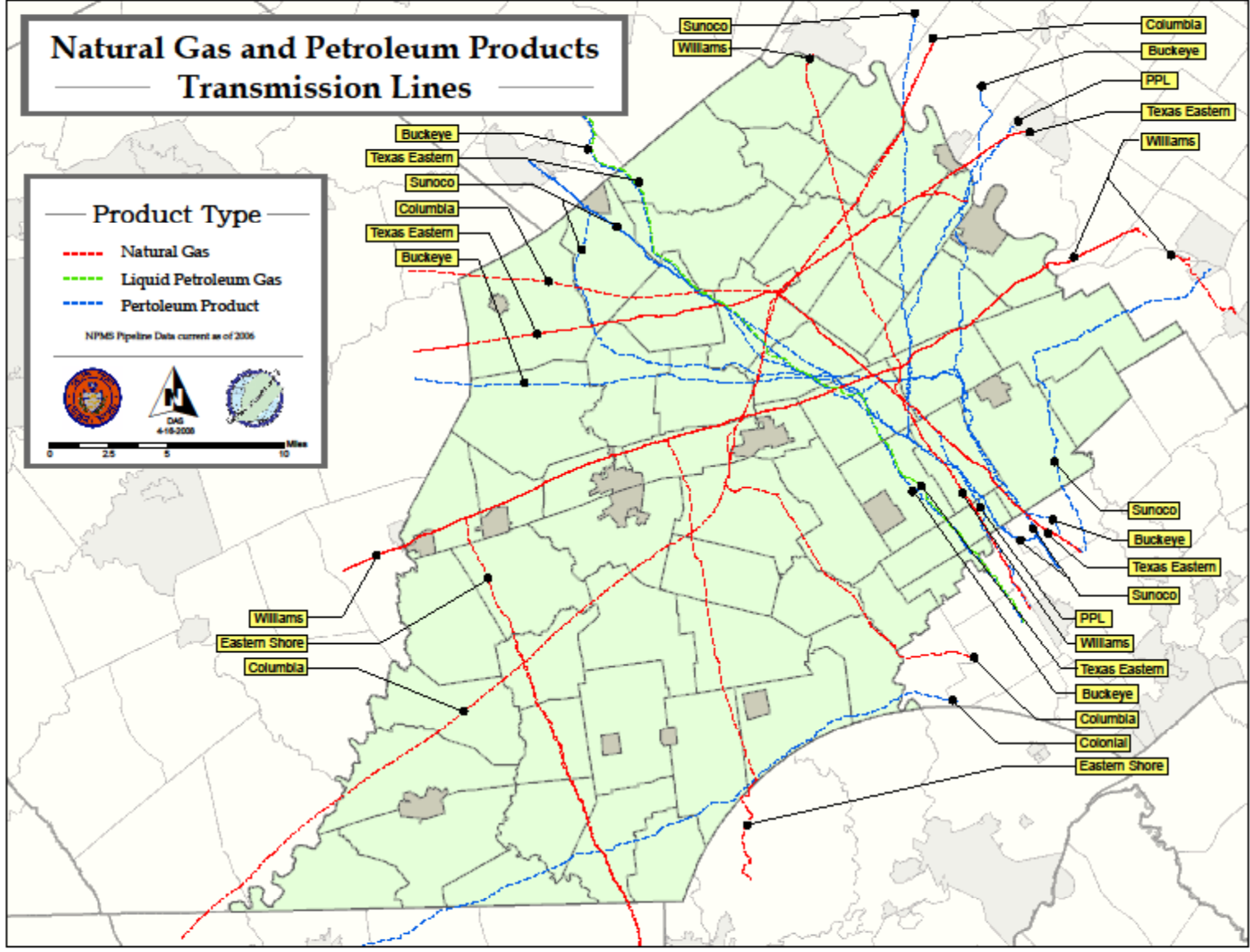
Natural Gas and Petroleum Products Transmission Lines

Product Type

- Natural Gas
- Liquid Petroleum Gas
- Petroleum Product

NPMS Pipeline Data current as of 2006

0 2.5 5 10 Miles



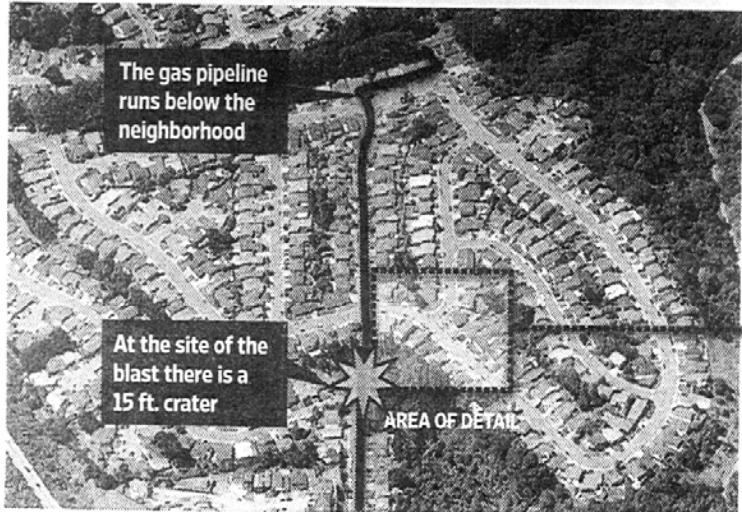
Considerations (cont.)

- Opportunities – valuable resource; cleaner than other forms of fossil fuels (emits about 50% less carbon when burned). PA ideally suited to deliver gas (transportation accounts for approximately 40% of fuel costs)
- Costs and Risks – pipelines, drilling pads and wastewater storage pits alter the landscape, fragment wildlife habitat, impact land use decisions; billions of gallons of water used to frack shale; heavy rigs damage roads; accidents and errors have contaminated land and drinking water (Clearfield Co. discharge; Dimock Twp., Susquehanna Co. contamination); numerous state parks and forest lands are under lease for gas drilling (Ohio); September '10 San Bruno, CA transmission pipeline explosion

San Bruno Transmission Pipeline Explosion

September 9, 2010

Before



After



Safety

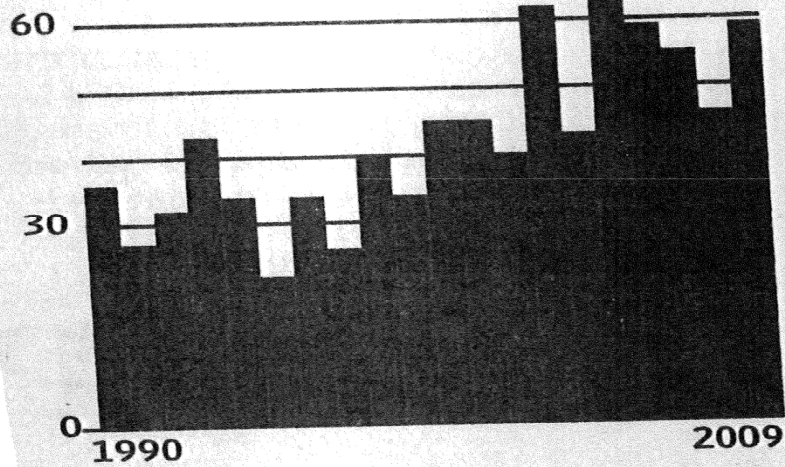
- San Bruno, California, Fatal Gas Blast
- 30 inch Diameter Steel Gas Pipeline
- NTSB Investigation of 2008 Fatal Pipeline Explosion in Rancho Cordova, California found as a major contributing factor the inability to quickly identify the source of the leak and the failure to evacuate the neighborhood
- New Focus on Maintenance Issues

Safety (cont.)

- Recent pipeline leaks and explosions in:
- Allentown – 600 people evacuated, 2 homes destroyed, 5 people killed
- Philadelphia – Several injured, 1 person killed



SIGNIFICANT GAS PIPELINE INCIDENTS, ONSHORE



Need To Find A Balance:

Drilling and Transporting

v.

Protection/Restoration of Natural
Environment; Health, Safety and
Welfare

Moving Forward

- PADEP examining new ways to prevent accidents and errors; new regulatory approaches being considered; holding meetings with drilling companies; recently hired 68 new staff for regulating and monitoring (although some have taken jobs industry)
- Some in the PA legislature considering drilling impact fee (extraction fee or severance tax) – of top 15 gas producing states, PA is only one without an extraction fee. Could raise \$100-\$200 M a year.
- Municipal Role?

Legal Framework

- Title 18, Chapter 1- Federal Energy Regulatory Commission (FERC) Code of Federal Regulations (CFR)
- Pipeline and Hazardous Materials Safety Administration (PHMSA)
- Pennsylvania Oil and Gas Act
- 25 Pa. Code, Chapter 78 (regulations pursuant to Act)
- Supreme Court of Pennsylvania Case Law - Huntley & Huntley v Borough of Oakmont; Range Resources v Salem Township
- Pipelines & Informed Planning Alliance (PIPA) - Partnering to Further Enhance Pipeline Safety In Communities Through Informed Land Use Planning – Recommended Practices
- Municipalities Planning Code (MPC)
- State, County & Local Ordinances in other communities

Pennsylvania

Pennsylvania Oil and Gas Act

- From the Oil and Gas Act, Sec. 602 –
 - Except with respect to ordinances adopted pursuant to the Municipalities Planning Code, and the . . . Flood Plain Management Act, all local ordinances and enactments purporting to regulate oil and gas well operations regulated by this act are hereby superseded. No ordinances or enactments adopted pursuant to the aforementioned acts shall contain provisions which impose conditions, requirements or limitations on the same features of oil and gas well operations regulated by this act or that accomplish the same purposes as set forth in this act. The Commonwealth, by this enactment, hereby preempts and supersedes the regulation of oil and gas wells as herein defined.

Municipalities Planning Code (MPC)

- Preamble and Sec. 105 – To empower “municipalities” to plan their development and govern the same by zoning, subdivision and land development ordinances... to protect and promote safety, health and morals; to accomplish coordinated development; to provide for the general welfare; to guide uses of land and structures, type and location of streets, public grounds and other facilities; to promote the preservation of this Commonwealth’s natural and historic resource; to ensure municipalities adopt zoning ordinances...consistent with the municipality’s comprehensive plan.
- Sec. 603(b) - Zoning ordinances, except to the extent that those regulations of mineral extraction by local ordinances and enactments have heretofore been superseded and preempted by the act of May 31, 1945 (P.L. 1198, No. 418), known as the "Surface Mining Conservation and Reclamation Act, the act of December 19, 1984 (P.L. 1093, No. 219), known as the "Noncoal Surface Mining Conservation and Reclamation Act," [and the act of December 19, 1984 (P.L. 1140, No. 223), known as the "Oil and Gas Act," and to the extent that the subsidence impacts of coal extraction are regulated by the act of April 27, 1966 (1st Sp.Sess., P.L. 31, No. 1), known as "The Bituminous Mine Subsidence and Land Conservation Act," and that regulation of activities related to commercial agricultural production would exceed the requirements imposed under the act of May 20, 1993 (P.L. 12, No. 6), known as the "Nutrient Management Act," regardless of whether any agricultural operation within the area to be affected by the ordinance would be a concentrated animal operation as defined by the "Nutrient Management Act," the act of June 30, 1981 (P.L. 128, No. 43), known as the "Agricultural Area Security Law," or the act of June 10, 1982 (P.L. 454, No. 133), entitled "An act protecting agricultural operations from nuisance suits and ordinances under certain circumstances," or that regulation of other activities are preempted by other Federal or State laws may permit, prohibit, regulate, restrict and determine:
- Sec. 603(i) - Zoning ordinances shall provide for the reasonable development of minerals in each municipality.

Municipalities Planning Code (MPC) (cont.)

- Sec. 604(1) - To promote, protect and facilitate any or all of the following: the public health, safety, morals, and the general welfare; coordinated and practical community development and proper density of population; emergency management preparedness and operations, airports, and national defense facilities, the provisions of adequate light and air, access to incident solar energy, police protection, vehicle parking and loading space, transportation, water, sewerage, schools, recreational facilities, public grounds, the provision of a safe, reliable and adequate water supply for domestic, commercial, agricultural or industrial use, and other public requirements; as well as preservation of the natural, scenic and historic values in the environment and preservation of forests, wetlands, aquifers and floodplains.
- Sec. 604(2) - To prevent one or more of the following: overcrowding of land, blight, danger and congestion in travel and transportation, loss of health, life or property from fire, flood, panic or other dangers.
- Sec. 605 - Where zoning districts are created, all provisions shall be uniform for each class of uses or structures, within each district, except that additional classifications may be made within any district:
 - (1) For the purpose of making transitional provisions at and near the boundaries of districts.
 - (2) For the regulation, restriction or prohibition of uses and structures at, along or near:
 - ... (vii) flood plain areas, agricultural areas, sanitary landfills, and other places having a special character or use affecting and affected by their surroundings.

Municipalities want a say regarding the land use implications of pipelines

- Want to address the health and welfare issues of siting transmission pipelines and be consistent with local land use planning regulations and comprehensive land use planning
- Want to provide for:
 - Uses not otherwise permitted;
 - Securing sites against vandalism;
 - Suitable access to pipeline sites;
 - Landscape buffers and setbacks for new development;
 - Signage;
 - Etc.

Our Approach

- A multi-prong municipal regulatory approach that addresses:
 - 1) Surface land uses affiliated with pipelines (providing for uses not otherwise permitted in most ordinances),
 - 2) Street opening standards,
 - 3) Standards for new development in proximity to pipelines, and
 - 4) Revisions to municipal comprehensive plans (providing the nexus between the comp. plan and code of ordinances).
- These four items combine to provide an effective approach towards proactively addressing pipelines within the legislative and regulatory climate currently in existence.
- Anyone's guess what will happen in the legislature, however this approach is on solid ground from a planning and legal perspective.

Surface Land Uses Affiliated With Pipelines

- E.g. - Above-ground transmission pipeline facilities including, but not limited to, compressor stations, pumping stations, regulator stations, launcher/receiver stations, and other surface pipeline appurtenances.
- Purposes
 - Accommodate such uses consistent with desire to protect the citizens of the municipality;
 - Minimize aesthetic, nuisance and visual impacts through proper design, siting and screening;
 - Ensure the location of such uses complies with industry standards; and
 - Preserve community character adjacent to such uses.

Surface Land Uses Affiliated With Pipelines

(cont.)

- Locational Provisions
 - Industrial Districts, etc.
 - Special Use Districts (areas where pipeline corridors already exist)
 - Prohibitions (within historic preservation overlay districts, scenic corridor overlay districts, etc.)
 - Conditional use?
- Standards
 - Setbacks from property line or right-of-way
 - Screening and Buffering: landscape plan, fencing
 - Noise reduction
 - Odor reduction
 - Signage: limit to appropriate warning and utility identification
 - Parking
 - Lighting
 - Design: engineered plan and review function, compatibility with surrounding uses
 - Visual Impact Reduction
 - Sufficient Need
 - Licensing Documentation
 - Removal Requirements

Street Opening Standards

- E.g. – Provides for the regulation of street openings, installations and driveways.
- Purpose
 - To provide applicable standards for the opening, cutting, excavating, grading, boring, crossing, installation or disturbance upon, in, under, or across a Township road or road right of way.
- Standards
 - Permit requirement
 - Application and Fees
 - PA One-Call
 - Traffic Maintenance
 - Detour provisions

Street Opening Standards (cont.)

- Standards (cont.)
 - Erosion Control (possible references)
 - OSHA requirements
 - Work notification
 - Backfill requirements
 - Overnight site security and public safety
 - Installation and Clean-up
 - Temporary and permanent road restoration
 - Identification of applicant and contact information
 - Security deposit and work guarantee
 - Utility placement and drainage
 - Violations and penalties
 - Insurance
 - Driveway Standards (optional): permits, dimensions, locations, etc.

Standards for New Development in Proximity to Pipelines

- E.g. - Plan submission, buffer, setback, signage and landscaping provisions for new development adjacent to transmission pipelines.
- Purposes
 - Help prevent and minimize unnecessary risk to the public health and welfare due to transmission pipelines and ensure consistency with the intent of the Township's Comprehensive Plan;
 - Minimize the likelihood of accidental damage to transmission pipelines due to external forces, such as construction activity and equipment;
 - Avoid exposing land uses with high on-site populations that are difficult to evacuate; and
 - Help reduce adverse impacts in the event of a pipeline failure.

Standards for New Development in Proximity to Pipelines (cont.)

- Applicability and Standards
 - Plan content for preliminary and final plan submissions
 - Document the location, right-of-way and limits of all easements for transmission pipelines.
 - Minimum setback of 100 feet for new residential buildings, commercial, industrial and institutional uses. Limits on grading that could create depressions where flammable materials may collect.
Protection of pipeline r-o-w - temporary barricades and signage.
 - Consultation Zone – applies to any application for new uses within 200 feet of pipeline r-o-w. Requires applicant to communicate plan details to pipeline operator and provide sufficient access to pipeline.
 - Land uses with high on-site populations – Such uses within 500 feet of pipelines shall develop mitigation measures (emergency procedures, employee training and education).
 - Design, buffering and screening – incorporating linear appearance of pipeline into development design; landscaping to minimize and buffer pipeline.
 - Signage – need for, number of and placement of identification and/or warning signs

Municipal Comprehensive Plans

- Provides the rational nexus between the comprehensive plan and municipal ordinances (Sect 105 of the MPC)
- Revisions to chapters/sections addressing community facilities and services.
 - Acknowledge existing and proposed pipelines
 - Acknowledge benefits and risks
 - The need to monitor existing and proposed activity
 - The need to enact regulations complimentary to state and federal law
 - Examples: access provisions, buffer and setback standards, etc.
 - Seek out increased communication with pipeline operators
 - Issues: new development impacts, land uses with high on-site populations, etc.
 - Reference related county and statewide planning goals
 - Coordinate with county and state on new pipeline projects

Contact Information

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Pennsylvania Pipeline Safety &
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www.papipelinesafety.org
(website prepared in conjunction
w/ U.S. DOT TAG Grant)

