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*Freedom Energy Center  
LNG Import Terminal  
Philadelphia Gas Works  
Philadelphia, PA*



***LNG Community Awareness  
Workshop***  
*February 2, 2005*



LUKENS ENERGY GROUP

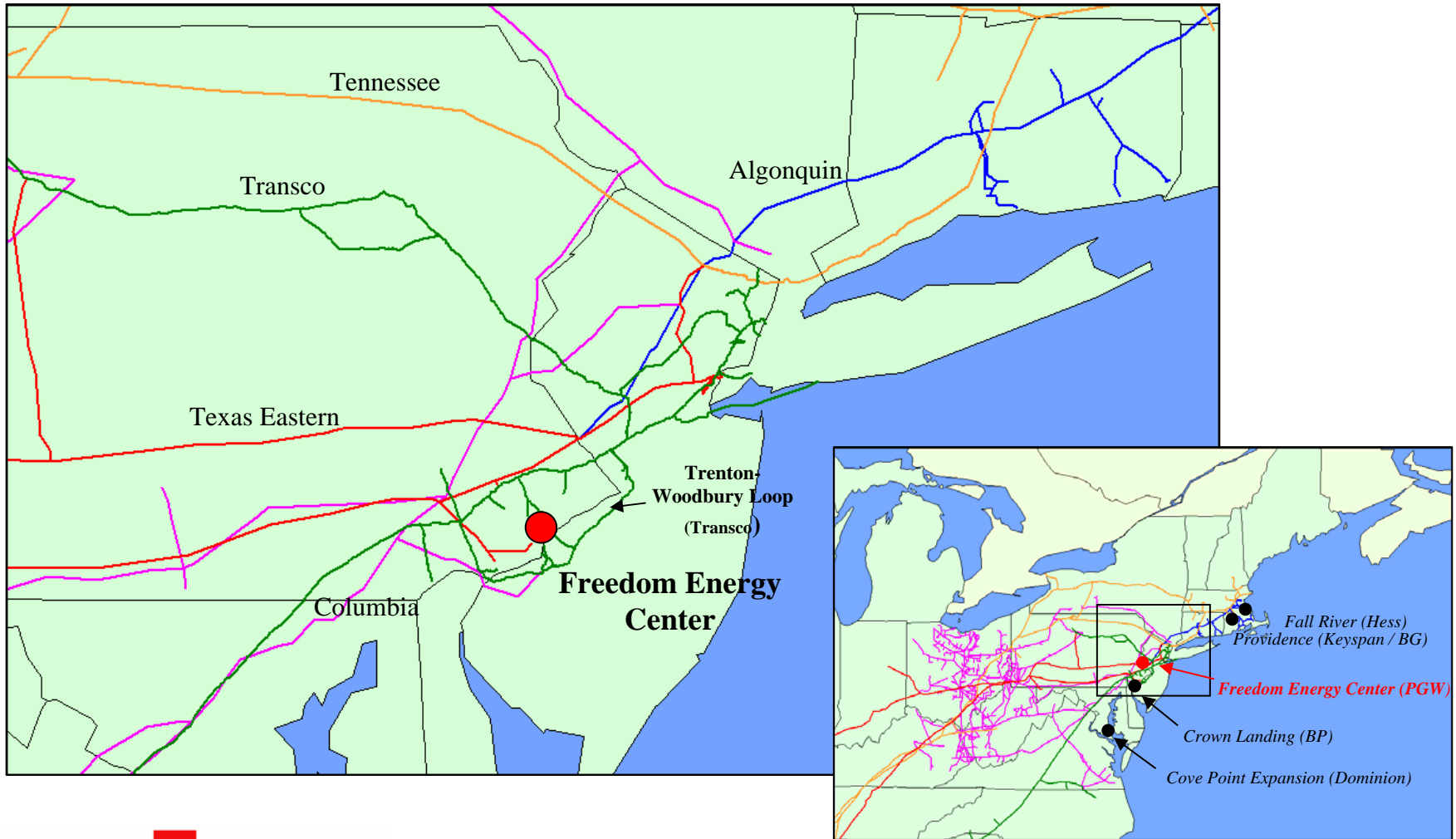
# ***LNG imports are the cornerstone of PGW's Freedom Energy Center***

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- Lukens Energy Group – Energy consulting firm; development advisor to PGW
- Philadelphia Gas Works
  - ❑ America's largest municipal gas company – over 500,000 customers
  - ❑ Operator of North America's largest non-interstate peak-shaving facility
  - ❑ Objectives are supply security and economic development
- Freedom Energy Center
  - ❑ Enhancement of an existing LNG peak-shaving facility and brownfield property
  - ❑ LNG import terminal, electric generation, natural gas liquids
  - ❑ Part of Philadelphia's Delaware River redevelopment initiative
- Project Status
  - ❑ Project announced by Mayor John F. Street on November 15, 2004
  - ❑ Request for Proposals from interested developers concluded on January 28
  - ❑ RFP preceded by 17 months of commercial and technical feasibility and stakeholder communication



# Port Richmond provides access to the northeast US market



# Port Richmond LNG (2004)

Continuous operation since 1970

Liquefaction  
14 MMcf/d

Regasification:  
380-600 MMcf/d

Low Pressure  
Distribution

Liquefaction  
20 MMcf/d

2 Bcf

2 Bcf

Tioga Marine Pier  
3,300 feet

Delaware River  
40 feet

## PGW Port Richmond LNG Facility (2004)

- 4 Bcf of Storage
- 380-600 MMcf/d of Regasification
- 40 MMcf/d of Liquefaction

# ***Freedom is unique among all proposed LNG regasification terminals***

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- Public / Private sector cooperation
  - ❑ The City is the sponsor
  - ❑ Stakeholders are “shareholders”
- Existing facilities
  - ❑ Enviably track record – safe, reliable operations for nearly 35 years
  - ❑ Industrial infrastructure – gas, water, chemicals, and retired power generation
  - ❑ Adjacent to Port Authority pier with 40-foot water depths dredged to navigation channel
- Market location
  - ❑ Regional solution for growth, service flexibility
  - ❑ Rare access to and efficient utilization of pipeline grid in high cost transportation areas
  - ❑ Power generation fuel source in constrained transmission region of PJM grid
- Urban setting
  - ❑ Residential and commercial areas near to exclusion zones
  - ❑ Delaware River LNG ships will transit under four bridges, past an airport, and downtown Philadelphia and Camden
  - ❑ Delaware River is a minimum of 1700-foot wide and its ports serve a variety of energy tanker ships



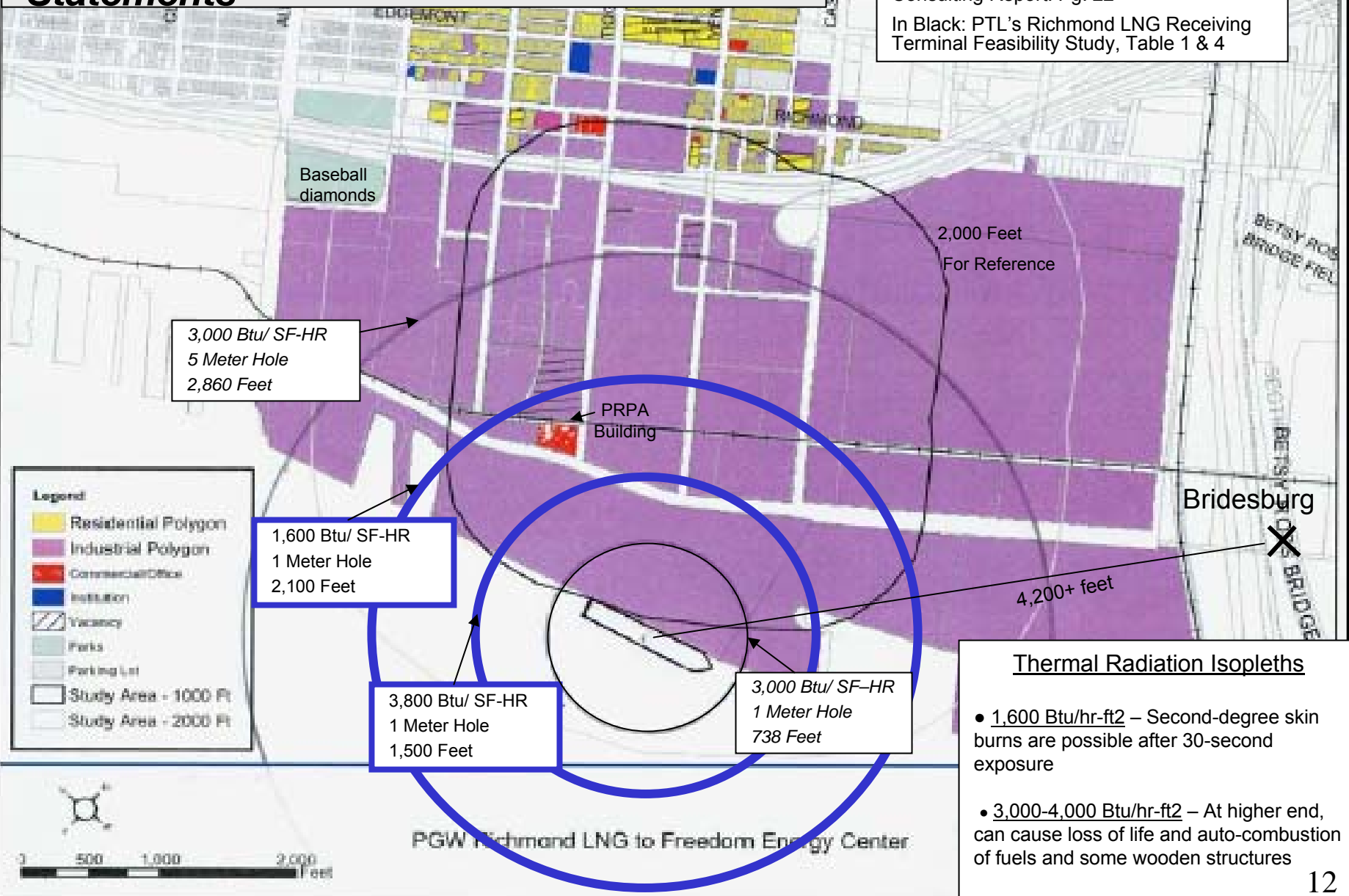
# Potential Thermal Exclusion Zones Based on Recent LNG Environmental Impact Statements

## Sources:

In Blue: FERC Doc. No. AD 04-6-00

Staff's Response to Comments on ABSG Consulting Report. Pg. 22

In Black: PTL's Richmond LNG Receiving Terminal Feasibility Study, Table 1 & 4



3,000 Btu/ SF-HR  
5 Meter Hole  
2,860 Feet

1,600 Btu/ SF-HR  
1 Meter Hole  
2,100 Feet

3,800 Btu/ SF-HR  
1 Meter Hole  
1,500 Feet

3,000 Btu/ SF-HR  
1 Meter Hole  
738 Feet

2,000 Feet  
For Reference

4,200+ feet

Bridesburg

PGW Richmond LNG to Freedom Energy Center

## Thermal Radiation Isopleths

- 1,600 Btu/hr-ft<sup>2</sup> – Second-degree skin burns are possible after 30-second exposure
- 3,000-4,000 Btu/hr-ft<sup>2</sup> – At higher end, can cause loss of life and auto-combustion of fuels and some wooden structures

# ***Communication – Success means you are part of the Community***

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- The public environment
  - ❑ Historic public apprehension about PGW
  - ❑ Working city – economic challenges
  - ❑ It's Philly
- The approach
  - ❑ Engage good professionals
  - ❑ Proactive, personal meetings
  - ❑ Honest, patient communication and *education*
  - ❑ Consistent, factual message
  - ❑ Incremental development steps
- The layers of the audience – multiple and overlapping constituencies
  - ❑ City – the Mayor, City Council (17 members), and Philadelphia Gas Commission
  - ❑ Communities – local papers, community leaders, focus groups
  - ❑ State – the Governor, state senators and congressman, action groups, PUC
  - ❑ Media – two daily newspapers
  - ❑ Federal – Coast Guard, FERC Staff and Commissioners

