NOPR – PIPELINE INTEGRITY MANAGEMENT
NATURAL GAS TRANSMISSION PIPELINES

HIGH CONSEQUENCE AREA IDENTIFICATION

February 20, 2003

Columbia Gas Transmission Corporation
HCA Definition – Part 192.761 (September 5, 2002)

Any of the following areas:
- Class 3 Locations
- Class 4 Locations
- Corridor Areas for Identified Sites
  - 300 ft for Pipe D ≤ 12” & MAOP ≤ 1200 psi
  - 1000 ft for Pipe D > 30” & MAOP > 1000 psi
  - 660 ft for all other Pipelines

Columbia Gas Transmission Corporation
Building or Outside Area that is:
• Visibly marked
• Licensed or registered by Federal, State, or local agency
• Known by public officials
• On a list or map from Federal, State, or local agency or in a publicly or commercially available database
• Occupied by persons confined, of impaired mobility, or difficult to evacuate, or there is
• Evidence of use by 20 people or more, at least 50 days in any 12 month period
NOPR - Pipeline Integrity Management
High Consequence Area Identification

NOPR – Modifications to HCA Definition

- Potential Impact Radius (PIR) – C-FER calculation
- Threshold Radius associated with PIR
  - 300ft/660ft/1000ft/ PIR + 15%
- Potential Impact Circle (PIC)
  - Radius = Threshold Radius
  - Contains any of the following:
    20 or More buildings for Threshold Radius 1000 ft or larger
    Facility occupied by persons hard to evacuate
    Places where people congregate
NOPR – Modifications to HCA Definition

- Potential Impact Zone (PIZ)
  - Rectangular Area
  - Determined by sliding PIC along pipeline
  - Determine Moderate Risk Areas – Class 3 & 4

- Provide Means of Calculating Longitudinal distances and actual area of impact in an HCA
NOPR - Pipeline Integrity Management
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Columbia Transmission Companies – HCA Actions to Date

- Based on Final Rule
- Trained Engineering Support and Operations Personnel on Identified Site definition
- Routine Population Density Surveys for Class Verification
  - Updated Class 3 and 4 Locations
  - Looked for Identified Sites across system
- Operation Personnel - Local knowledge of sites
- Contacts with Local Safety Officials
- Limited search to date of publicly available internet databases
- Anticipate Refinement in 2003/2004
NOPR - Pipeline Integrity Management
High Consequence Area Identification

Significant HCA Issues

- Requirement to search all publicly or commercially available databases is impractical.
  - Volume of information is unknown
  - Some databases are extremely expensive to use
  - Searching databases can be labor intensive

- Rural Churches and other gathering places
  - Overly Broad
  - Difficult to determine what qualifies
  - Little guidance on how to interpret 20 or more people/50 days/12 month period
Significant HCA Issues

- Moderate Risk areas – Extension of Baseline Assessment periods vs. exclusion from assessment requirements or utilization of enhanced preventative/mitigative measures

- Lower stress pipelines fail differently than those at higher stress levels – should program be focused on pipelines that would have higher consequences?