SoCalGas/SDG&E Pipeline Segment Prioritization Process



Draft Work in Progress – Provided to Facilitate Discussion at Technical Workshop on June 22-23, 2011

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Sub-Prioritization Methodology

Pipeline risk is commonly defined as the product of the likelihood of failure (LOF) and the consequence of failure (COF), or Risk = LOF x COF. LOF is closely related to the specific characteristics and anticipated threats on each pipeline segment. COF is typically related to the potential energy in each pipeline and the population density potentially affected by a failure.

The LOF and COF are addressed in the development of the priority definitions. The differences in LOF within each pipeline priority are minimal when compared to the COF. Accordingly, after priorities have been broadly established for all lines, the sub-ranking routine for scheduling purposes is primarily weighted by the COF of each segment.

Rank Ordering by PIR/Long Seam Adjustment Factor

Potential impact radius (PIR) accounts for pressure and diameter according to the following relationship:

 $PIR = 0.69*(p*d^2)^{0.5}$

The calculated PIR will be divided by a long seam adjustment factor to raise the score within the priority of pipeline segments with certain types of long seams as follows:

- Low Frequency ERW: 0.8
- Furnace butt weld: 0.6
- Lap weld, hammer weld: 0.6
- Flash weld: 0.6
- DSAW, SSAW, Seamless: 1.0
- Electric Fusion Weld: 1.0

Note: During the application of PIR, Method 2 HCA will precede Method 1 HCA.

Tie Breaker: %SMYS at MAOP

The percentage of specified minimum yield strength at MAOP will be used to address any pipeline segments with the same score, with the higher %SMYS at MAOP being prioritized above lower % SMYS at MAOP.

Note: The final schedule will serve as the basis for plan implementation, but will be subject to changes related to system conflicts, logistical coordination, and incorporation of other inspections and assessments, all of which may impact final implementation.

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