

frequency. The final rule provides a means to fulfill this requirement at reduced burden, and lower financial impact. If an operator takes advantage of the longer reassessment intervals provided in this final rule, the rule requires that the operator conduct an interim reassessment at least every seven years using a more focused direct assessment (Confirmatory Direct Assessment) method.

Confirmatory direct assessment is a more focused application of the principles and techniques of direct assessment, that is concentrated on identifying critical segments of suspected corrosion and third-party damage. RSPA/OPS has structured the requirements for confirmatory direct assessment in a manner intended to allow maximum flexibility for operators. Indirect examinations may be performed using only one, rather than two, tools. Corrosion regions may be larger than for regular direct assessments. The number of excavations required per region is less. These changes will allow operators to plan and conduct confirmatory direct assessments in a manner that is most cost-effective, *i.e.*, identifies areas of concern at lowest cost.

RSPA/OPS estimates that the cost of periodic reassessment will generally not occur until the eighth year, unless the baseline assessment indicates significant defects that would require earlier reassessment. Operators must begin CDA interim assessments in the eighth year. Additionally, some operators of higher-pressure pipelines, who must perform regular reassessments in ten years, may elect to perform those assessments at seven-year intervals instead of using CDA. The cost-benefit analysis assumes that half of the affected pipeline operating above 50 percent SMYS will be assessed using the higher-cost methods every seven years.

The analysis of costs RSPA/OPS expects operators to incur in implementing the rule results in an estimated annual cost of \$262.1 million to conduct baseline testing. This includes the cost to modify pipelines. All necessary modifications will be completed during the baseline period, making annual costs for reassessments considerably lower. Our analysis estimates that annual reassessment costs will be approximately \$50 million, varying slightly in different years depending on which pipeline is due for reassessment.

Integrating information related to the pipeline's integrity is a key element of the integrity management program. Costs will be incurred to recover historical data about the pipeline and

incorporate it in modern data management systems that will allow it to be used more readily. RSPA/OPS estimates that most of these costs will be incurred in the first year after the effective date of the rule. Operators will incur annual costs thereafter to incorporate new data, including the results from assessments, and for integration and analysis by knowledgeable pipeline safety professionals. RSPA/OPS estimated in the draft regulatory analysis that the total costs for the information integration requirements would be \$31.5 million in the first year and \$15.75 million annually thereafter. Comments indicated that these estimates, particularly for the first year, were very low. The Interstate Natural Gas Association of America (INGAA) pointed out that costs to gather old data, much of which is in paper records and not easily retrieved, would be much higher. INGAA estimated that operators would incur costs of \$1,359 per mile for the initial data gathering and setup and \$113 per mile for annual updates and analysis. RSPA/OPS accepts that costs to retrieve old data will be high, and that estimating these costs on a per-mile basis is reasonable. RSPA/OPS has adopted the INGAA-provided unit costs. Applying them results in an estimated total cost for data integration of \$387.3 million in the first year and \$32.21 million annually thereafter.

The final rule also requires operators to evaluate the risk of pipeline segments that can affect HCAs to determine if additional preventive or mitigative measures that would enhance public safety should be implemented. One of the additional preventive or mitigative actions that an operator can take is to install automatic shutoff valves or remotely controlled valves. RSPA/OPS could not estimate the total cost of installing such valves in response to this rule, because there are too many factors that would have to be analyzed in order to produce a valid estimate of how many operators will install them. RSPA/OPS completed a generic study in 1999, however, in which we concluded that conversion of existing sectional block valves to remote operation was not economically feasible in most cases. Operator- and location-specific factors could change this conclusion for individual valves but RSPA/OPS could not analyze these specific factors for individual block valves and therefore, did not estimate the total cost for installing remote valves. RSPA/OPS presumes that operators will analyze valve-specific factors and will not replace valves unless that action is cost-

beneficial. RSPA/OPS estimates that the cost to operators to perform the required risk analyses will be approximately \$11.5 million.

Consideration by Advisory Committee

RSPA/OPS discussed the final regulatory analysis with the Technical Pipeline Safety Standards Committee (TPSSC) in a public teleconference on July 31, 2003. The TPSSC, composed equally of representatives of industry, government, and groups representative of public involvement in pipeline safety issues, agreed that the analysis provides a basis to justify proceeding with this rulemaking. The committee unanimously concluded that the expected benefit in terms of improved public confidence in pipeline safety is substantial and justifies the expected costs.

Conclusions

RSPA/OPS concludes that the benefits are about the same as the costs. Quantified benefits total \$4.7 billion over the 20 years analyzed. Costs over this same period are estimated to be \$4.7 billion. There are additional benefits for which it was difficult to estimate monetary values. These include an improved basis for public confidence in pipeline safety, with attendant improvements in the ability to site new pipelines; reduced consequential damages from an unexpected interruption of gas service, providing a technical basis that will allow increases in pressure, and thus in delivery of gas, during future energy emergencies; and providing incentives to foster additional improvements in pipeline testing technology.

The estimated costs for implementing this rule are significant. They need to be considered in the context of the size of the overall U.S. market for natural gas. Energy Information Administration figures show that total U.S. consumption of natural gas in 2001 amounted to 20,477,009 million cubic feet. Residential consumption was 4,716,186 million cubic feet. When the total estimated first-year costs for implementing this rule are divided over these quantities, they result in an increase in cost of 3.6 cents per thousand cubic feet. An average residential consumer would see an increase of \$3.07 per year if these costs were passed on. This would mean an increase of 26 cents on an average monthly bill, or a 0.39 percent rise.

RSPA/OPS considers these costs reasonable to realize the benefits associated with this rule. Additionally, promulgating this rule will result in savings of approximately \$6.2 billion