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WHO PAYS, WHO BENEFITS, AND ADEQUATE INVESTMENT IN NATURAL GAS INFRASTRUCTURE

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I. INTRODUCTION, OBJECTIVES, AND CONCLUSIONS[†]

The issue of who should pay for natural gas pipeline capacity expansions and how the rates should be structured has been a subject of debate among interested parties during the past few years. The issue is whether the cost of a pipeline expansion should be borne only by the new expansion customers (incremental rates), or whether a pipeline company can spread the cost of providing the new service over all its customers, both existing and new (rolled-in rates).

On September 15, 1999, the Federal Energy Regulatory Commission (the FERC or the Commission) issued a Policy Statement, *Certification of New Interstate Natural Gas Pipeline Facilities* (1999 Policy Statement).¹ The 1999

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1. *Certification of New Interstate Natural Gas Pipeline Facilities*, 88 F.E.R.C. ¶ 61,227 (1999), *Order Clarifying Statement of Policy*, 92 F.E.R.C. ¶ 61,128 (2000), *Order Further Clarifying Statement of Policy*, 92 F.E.R.C. ¶ 61,094 (2000) [hereinafter *1999 FERC Policy Statement*].

Policy Statement was a refinement of a policy statement issued in 1995 (1995 Policy Statement).² Before the FERC's 1999 Policy Statement, the Commission applied a presumption in favor of rolled-in rates when the cost impact of the new facilities would result in a rate impact on existing customers of five percent or less and some system benefits would occur. The 1999 Policy Statement, on the other hand, established that the threshold applicable to existing pipelines is whether the project can proceed without subsidies from their existing customers. This generally means that expansion projects will be priced incrementally, so that expansion shippers will have to pay the full costs of the project, without subsidy from existing customers that could lead to uneconomic expansion and discourage entry by new pipeline companies. However, the 1999 Policy Statement acknowledges that there are cases where costs can be rolled-in (for instance, "inexpensive expansibility" made possible because of earlier costly construction, existence of vintage capacity, or where facilities are needed only to improve service for existing customers).³ The absence of pipeline-to-pipeline competition has also been presented as a justification to permit rolled-in pricing.

The relevant academic literature on pricing of capacity pipeline expansions, as well as the more general literature on public utility pricing, shows that the desirability of rolled-in or incremental pricing as the most efficient and equitable policy depends on the particular characteristics of the project at issue and the particular ratemaking goals the author treats as paramount. It also supports the idea of considering all of the costs and benefits of a project in the test of public convenience and necessity. Any bias in favor of incremental pricing might then prove as harmful as any bias in favor of rolled-in treatment. An analysis of the relevant economic principles and their implementation in specific cases leads to the conclusion that a generalized bias towards incremental pricing is neither economically efficient nor equitable: (i) forcing pipelines to support new projects financially without relying on charges from existing customers fails to consider that many projects create significant benefits that go beyond just direct benefits to incremental customers; (ii) it may promote inefficient subsidization from new customers to existing customers; (iii) it would promote a risk-reward imbalance among industry participants that would strongly discourage the investment in pipeline infrastructure necessary to achieve system benefits and grid efficiency; (iv) it may promote undue discrimination in favor of existing customers who impose the same incremental costs but pay lower rates; and (v) it fails to achieve an equitable sharing of the costs and benefits of new additions since existing customers do not pay for the benefits they enjoy.

The natural gas industry is currently facing short-term and long-term interrelated concerns that can have disastrous consequences on domestic manufacturing competitiveness and consumer benefits: mainly, price spikes and price volatility, lack of adequate basic infrastructure connecting supply with demand, insufficient gas supply and the high vulnerability to a numerous range of hazards (for instance, coordinated terrorist attacks on energy infrastructures,

2. *Pricing Policy for New and Existing Facilities Constructed by Interstate Natural Gas Pipelines Statement of Policy*, 71 F.E.R.C. ¶ 61,241 (1995), *reh'g denied*, 75 F.E.R.C. ¶ 61,105 (1996).

3. *1999 FERC Policy Statement*, *supra* note 1.

natural disasters—hurricanes, earthquakes, floods, landslides, forest fires—or unintentional human errors).

The burden of the risk of cost recovery under incremental pricing, the forced roll-in of successful projects—*i.e.*, projects in which incremental revenues are in excess of incremental costs—to confer their net benefit to existing customers, the possibility of later switching methods under “changed circumstances,” the reluctance of pipeline customers to sign long-term contracts and the increased contractual flexibility granted to shippers during the last five years due to the Commission’s open access policies Order 636⁴ and Order 637⁵ will tend to discourage the efficient investment of pipeline expansion to prevent bottlenecks, to assure system reliability, and to serve future demand additions. The huge cost of not having enough investment in core infrastructures justifies the immediate reconsideration of any policy that would create a bias in favor of incremental pricing. The implementation of an unbiased pricing policy will provide better incentives to the market participants to invest in needed basic infrastructures that will ultimately increase the flexibility of the energy system. This flexibility adds both reliability and security to the energy network.

The main objectives of this article are threefold. First, we introduce the main policy changes affecting the authorization and pricing of pipeline projects since 1960. We focus our analysis on the 1999 Policy Statement, since it constitutes the current analytical framework in certificate proceedings. Second, we present an overview of the academic-economic literature on pricing of natural gas pipeline expansions. Our objective is to review the main economic arguments in favor of or against the use of rolled-in pricing methodology versus incremental pricing. Third, we provide an economic evaluation of any policy that would create a presumption in favor of incremental pricing. We recommend a balanced approach that would depend on the particular circumstances of the project, consider all the costs and benefits of a project (not just the benefits that can be financed out of charges to new customers) and eliminate any biases toward rolled-in or incremental pricing: (i) for those investments that grant benefits only to the existing ratepayers the only real solution is to roll-in the costs; (ii) unless there are extenuating circumstances, brand-new pipeline projects or expansion projects that are not part of a mainline system and confer benefits only to new customers should be financed entirely on an incremental basis; (iii) finally, the in-between cases, where benefits are conferred on pre-existing and new customers, would be dealt with on a case-by-case approach to allocate the costs fairly. We believe that improved decisions can be readily

4. Order No. 636, *Pipeline Service Obligations and Revisions to Regulations Governing Self-Implementing Transportation; and Regulation of Natural Gas Pipelines After Wellhead Decontrol*, [Regs. Preambles 1991-1996] F.E.R.C. STATS. AND REGS. ¶ 30,939, 57 Fed. Reg. 13,267 (1992) (to be codified at 18 C.F.R. pt. 284); *order on reh’g*, Order No. 636-A, [Regs. Preambles 1991-1996] F.E.R.C. STATS. & REGS. 57 Fed. Reg. 36,128 (1992) (to be codified at 18 C.F.R. pt. 284); *order on reh’g*, Order No. 636-B, 61 F.E.R.C. ¶ 61,272 (1992).

5. Order No. 637, *Regulation of Short-Term Natural Gas Transportation Services, and Regulation of Interstate Natural Gas Transportation Services*, [Regs. Preambles 1996-2000] F.E.R.C. STATS. & REGS. ¶ 31,091, 65 Fed. Reg. 10,156 (2000) (to be codified at 18 C.F.R. pts. 154, 161, 250, 284); *order on reh’g*, Order No. 637-A, [Regs. Preambles 1996-2000] F.E.R.C. STATS. & REGS. ¶ 31,099, 65 Fed. Reg. 35,705 (2000) (to be codified at 18 C.F.R. pts. 154, 161, 250, 284); *order on reh’g*, Order No. 637-B, 92 F.E.R.C. ¶ 61,062 (2000).

achieved by simply articulating and applying a more clearly balanced policy. We believe this approach that corrects any perceived general bias in favor of incremental pricing can be easily accomplished within the framework of the 1999 Policy Statement. To erase all doubt, the Commission should clarify that projects will be evaluated by an unbiased, case-by-case approach. Any bias toward incremental pricing would apply only to projects that provide benefits only to new customers. As always, projects to create system benefits for existing customers would be automatically rolled in. Hybrid projects would be financed by a fair allocation of the costs based on cost-causation and benefits received. The implementation of these policies could be improved by clarifying the implementation of some of the methodologies to eliminate uncertainties and possible errors.

II. POLICY CHANGES ON AUTHORIZATION AND PRICING OF PIPELINE PROJECTS

A. “*Battle Creek*” Test

The Commission first set forth its factors to determine whether rolled-in rates are appropriate in 1960 in *Battle Creek Gas Co. v. FPC*.⁶ Under what has come to be known as the “*Battle Creek*” test, the Commission stated that it would permit rolled-in rates when expansion facilities are integral to the mainline system and are shown to grant positive benefits to all customers of the system.

Under the *Battle Creek* test, once facilities are found to be integrated into the mainline system and to provide a positive benefit to all customers, the costs of those facilities are considered to be part of the pipeline’s cost of serving all its customers. That is because the demand of all customers for system capacity creates the need for system expansion.⁷

The Commission then concluded that “[b]ecause every shipper is economically marginal, the costs of increased demand may equitably be attributed to every user, regardless when it first contracted with the pipeline.”^{8,9}

[T]he rolled-in approach ensures that two otherwise similar customers will not pay radically different prices for commingled gas coming from the same pipe, merely because one happens to have been receiving the service longer than the other. Use of the rolled-in method thus serves the interest of equal treatment for customers receiving equal service.¹⁰

Interestingly enough, the Circuit Court of Appeals for the District of Columbia recognized in the *Battle Case* that either incremental pricing or rolled-in pricing may be the most appropriate methodology depending on the particular characteristics of the project at issue.¹¹ The Court recognized the value of rolled-in pricing since it recognized that:

6. *Battle Creek Gas Co. v. FPC*, 281 F.2d 42 (D.C. Cir. 1960).

7. *Southeastern Mich. Gas Co. v. F.E.R.C.*, 133 F.3d 34 (D.C. Cir. 1998).

8. *Id.*

9. See 1 ALFRED E. KAHN, *THE ECONOMICS OF REGULATION*, VOLUME I, 17-25, 69-70 (MIT Press 1988) (1970), for an endorsement of this position.

10. *Battle Creek Gas Co.*, 281 F.2d at 46.

11. *Id.*

[a] gas pipeline of this sort is not just a collection of discrete pieces and parts, but an integrated system serving all of its customers. Applying this approach the cost of the various assets of the system are collected or “rolled in” to arrive at the cost of the entire system which is then pro-rated among all of the customers.¹²

However, the Court also noted that there are circumstances under which the use of incremental pricing may be optimal:

[u]se of a “rolled-in” approach alone is not adequate in all situations, particularly where some assets are used by the utility solely for the benefit of one customer. . . . At this point the facility becomes so identified with its function as a part of the local distributor’s gas plant that it may be unfair to charge its costs to all of the customers of the utility. This is particularly so where the extent and cost of such segregated facilities vary greatly among the customers. In such a situation the costs of these facilities are commonly charged as an “incremental” cost added in to the particular customer’s rate base.¹³

This is precisely the kind of unbiased, flexible approach we urge below.

In 1991 two important decisions provided further guidance on the standard of proof to justify rolled-in pricing. In *Algonquin Gas Transmission Co. v. FERC*,¹⁴ the Appeals Court required the Commission to justify rolled-in pricing with substantial evidence that new facilities produce integration and system-wide benefits to customers.¹⁵ Furthermore, in *Great Lakes Gas Transmission*,¹⁶ the Commission abandoned its traditional standard (the *Battle Creek* test) and required a tougher standard of proof for rolled-in pricing. Rather than the two-part *Battle Creek* test (proof that the system was integrated and that qualitative benefits accrued to all customers as a consequence of the expansion), the FERC applied a “commensurate benefits” test, in which it compared the cost of expansion with the benefits accruing to existing users.¹⁷ The pipeline has to justify rolled-in rates by “showing that systemwide benefits to existing customers are commensurate with the increase in rates.”¹⁸

B. *The 1995 Pricing Policy Statement*

The 1995 Pricing Policy Statement amended the *Battle Creek* test and elucidated the FERC’s policy with respect to pricing of expansion facilities. According to Morgan, *et al*,¹⁹ the Commission designed the 1995 Pricing Policy Statement to minimize the impacts of two main concerns:

[(i)] [t]he [C]ommission was [worried] that the *Battle Creek* [T]est had resulted in a historical preference for rolled-in pricing that potentially required the pipeline’s existing customers to pay substantially higher prices without receiving proportionate system[-]wide benefits[:]; [and (ii)] . . . the [C]ommission believed

12. *Battle Creek Gas Co.*, 281 F.2d at 46-47.

13. *Id.*

14. *Algonquin Gas Transmission Co. v. FERC*, 948 F.2d 1305 (D.C. Cir. 1991).

15. *Id.* at 1313.

16. Opinion No. 367, *Great Lakes Gas Transmission Ltd. P’ship*, 57 F.E.R.C. ¶ 61,140 (1991).

17. *Id.*

18. Opinion No. 367, *supra* note 16.

19. Richard G. Morgan, Elisabeth R. Myer-Kerbal & Curtis D. Blanc, *Recent Litigation Covers Variety of Lasting Issues*, in *NATURAL GAS: INDUSTRY ANALYSIS FOR GAS YEAR 2000-2001* 248, 253 (Robert E. Willet ed., 2000).

that the potential for subsequent price increases unduly harmed customers with long-term service contracts.²⁰

The 1995 Policy Statement sought to provide as much up-front assurance as possible of how an expansion would be priced so that the pipeline and expansion shippers could make informed investment decisions. Therefore, the Commission permitted pipelines to request in the certificate proceeding a determination of whether rolled-in rates would be appropriate in the next rate case. The Commission stated it would consider the extent to which the new facilities were integrated with the existing facilities and the specific system benefits produced by the project. When the roll-in of the costs of the new facilities caused a small rate impact (less than five percent), the proponents of roll-in only needed to make a general showing of system benefits.²¹ If the rate impact was above “5 percent, incremental pricing was thought to be appropriate unless there were system[-]wide benefits.”²² Under this scenario, the proponents of rolled-in rates had to show that the benefits were proportionate to the rate impact.²³ Regulators took the view that existing customers should be able to share in the scale economy benefits created by the expansion of an existing system.

C. The 1999 Certificate Policy Statement and its Application

1. The 1999 Policy Statement and its Objectives

The 1999 Policy Statement constituted a refinement of the 1995 Policy Statement.²⁴ The 1999 Policy Statement sets out the analytical steps the Commission will use. The first step provides that when “a certificate application is filed, the threshold question applicable to existing pipelines is whether the project can proceed without subsidies from their existing customers.”²⁵ According to the Commission, this generally means that expansions will be priced incrementally, so that expansion shippers will have to pay the full costs of the project, without subsidy from the existing customers through rolled-in pricing. The second step in the process determines “whether the applicant has made efforts to eliminate or minimize any adverse effects the project might have on the existing customers of the pipeline proposing the project, existing pipelines in the market and their captive customers, or landowners and communities

20. *Id.*

21. “Opponents of rolled-in treatment could rebut this assumption by showing that the benefits of the new facility were so insignificant that it would be unreasonable under the circumstances to permit rolled-in pricing.” See Morgan, *supra* note 19, at 253.

22. Morgan, *supra* note 19, at 253.

23. The 1995 Pricing Policy Statement provided that the rate design decided in the certificate order would apply to the pricing of the facilities in the first rate case after the facilities went into operation, unless the parties could demonstrate that circumstances had changed significantly between the time the certificate was issued and the pipeline filed the rate case. Ordinarily, under the 1995 Pricing Policy Statement, the pre-determination in the certificate proceeding would create a presumption for rolled-in rates in the Section 4 rate case, and the parties opposing rolled-in treatment would be required to rebut that presumption by showing significantly changed circumstances since the certificate was issued. *Pricing Policy for New and Existing Facilities Constructed by Interstate Natural Gas Pipelines*, 71 F.E.R.C. ¶ 61,241 (1995).

24. 1999 FERC Policy Statement, *supra* note 1.

25. *Id.* at 61,745.

affected by the route of the new pipeline.”²⁶ The Commission will then balance the public benefits against adverse effects in determining whether to approve the project. The Policy is summarized by the Commission in its approval of a certificate:

[u]nder this policy, the threshold requirement for pipelines proposing new projects is that the pipeline must be prepared to financially support the project without relying on subsidization from the existing customers. The next step is to determine whether the applicant has made efforts to eliminate or minimize any adverse effects the project might have on the applicant’s existing customers, existing pipelines in the market and their captive customers, or landowners and communities affected by the new construction. If residual adverse effects on these interest groups are identified after efforts have been made to minimize them, the Commission will evaluate the project by balancing the evidence of public benefits to be achieved against the residual adverse effects. This is essentially an economic test. Only when the benefits outweigh the adverse effects on economic interests will the Commission then proceed to complete the environmental analysis where other interests are considered.²⁷

The objectives the Commission is attempting to achieve in implementing these standards are stated in its decision to issue a certificate to TransColorado Gas Transmission Company:

[o]n September 15, 1999, the Commission issued a Policy Statement providing guidance as to how proposals for certificating new construction will be evaluated. Specifically, the Policy Statement explains that the Commission, in deciding whether to authorize the construction of new pipeline facilities, balances the public benefits against the potential adverse consequences. Our goal is to give appropriate consideration to the enhancement of competitive transportation alternatives, the possibility of overbuilding, subsidization by existing customers, the applicant’s responsibility for unsubscribed capacity, the avoidance of unnecessary disruptions of the environment, and the unneeded exercise of eminent domain in evaluating new pipeline construction.²⁸

The Commission stated in its Order Clarifying the Pricing Policy Statement that the determination of whether a project was viable should be made by the market:

[t]he removal of the subsidy is necessary to ensure that the market finds the project is viable because either the pipeline or its expansion shippers are willing to fully fund the project. Having lower prices subsidized by existing customers can lead to overbuilding as new customers are willing to subscribe to the capacity only because the price of the capacity is subsidized.²⁹

One of the objectives of the 1999 Policy Statement was to eliminate possible subsidies to new projects by existing customers that could lead to uneconomic expansion and discourage entry by new pipeline companies:

[t]his no-subsidy requirement also is needed to ensure existing pipelines do not receive unfair advantage in competition for new construction projects with new entrant pipelines. The new entrant, by virtue of having no existing customers, must fully support a proposed project. In contrast, if the existing pipeline can receive a partial subsidy from its existing customers, this would create a bias favoring the expansion of existing facilities even where the pipeline of the new entrant would be

26. 1999 FERC Policy Statement, *supra* note 1.

27. *Eastern Shore Natural Gas Company*, 105 F.E.R.C. ¶ 61,049 at P 12 (2003).

28. *TransCo. Gas Transmission Company*, 106 F.E.R.C. ¶ 61,276 at P 12 (2004) (footnote omitted).

29. 1999 FERC Policy Statement, *supra* note 1, at 61,392.

more efficient. A rolled-in subsidy paid by the customers of the existing pipeline, therefore, may result in potential shippers favoring the less efficient project over the more efficient one.³⁰

Under the 1999 Policy Statement, the need for the pipeline will normally rely upon a market study and the applicant will not need to present contracts that sell any specific percentage of the new capacity.³¹ If the pipeline sponsor is bearing the risk through incremental pricing, the Commission is willing to take the sponsor's word that there is a need for the project. Under this policy, the pipeline and its expansion customers could share the risks of the project, but they could not shift any of those risks onto existing customers.³²

There are cases in which the 1999 Policy Statement explicitly recognizes that rolled-in rates are appropriate exceptions to this incremental pricing policy, such as in cases of inexpensive expansions that are made possible because of earlier costly construction, where a pipeline has vintages of capacity or if some customers have the right of first refusal to renew their expiring contracts. Customers could be allowed to renew their contracts at their original contract rate except when the incremental capacity is fully subscribed and there are competing bids for the existing customers' capacity. In that case, the existing customer could be required to match the highest competing bid up to a maximum price set at either an incremental rate or a rolled-in rate in which costs for expansions are accumulated to yield an average expansion price, a sort of "rolled-up" rate.

A requirement that the new project must be financially viable without subsidies does not eliminate the possibility that in some instances the project costs should be rolled into the rates of existing customers. In most instances incremental pricing will avoid subsidies for the new project, but the situation may be different in cases of *inexpensive expansibility that is made possible because of earlier, costly construction*. In that instance, because the existing customers bear the cost of the earlier, more costly construction in their rates, incremental pricing could result in the new customers receiving a subsidy from the existing customers because the new customers would not face the full cost of the construction that makes their new service possible.³³

Another case where the FERC admits that rolled-in pricing would be appropriate is "*where a pipeline has vintages of capacity and thus charges shippers different prices for the same service under incremental pricing, and some customers have the right of first refusal (ROFR) to renew their expiring contracts.*"³⁴

In addition, the Commission suggested rolled-in rates could be approved before the expiration of current contracts if the facilities are needed to improve service for existing customers, and raising existing customers' rates does not constitute a subsidy of an expansion by existing customers:

30. *Id.*

31. Previously the Commission would accept a showing that 25% of a proposed project's capacity was subscribed by long-term, ten-year, binding contracts as a sufficient evidence of market demand for the project. *1999 FERC Policy Statement, supra* note 1, at 61,743.

32. *Id.* at 61,392.

33. *1999 FERC Policy Statement, supra* note 1, at 61,746 (emphasis added).

34. *Id.* (emphasis added).

Projects designed to improve existing service for existing customers, by replacing existing capacity, improving reliability or providing flexibility, are for the benefit of existing customers. Increasing the rates of the existing customers to pay for these improvements is not a subsidy. Under current policy these kinds of projects are permitted to be rolled in and are not covered by the presumption of the current pricing policy.³⁵

2. General Application of the 1999 Policy Statement

As a matter of logic, new pipeline expansion projects can be classified into three different groups according to the allocation of benefits caused by the investment in new expansion projects. At one extreme we have those projects that are planned to provide benefits only to new ratepayers (first group of projects). On the other extreme we have projects designed to provide benefits only to pre-existing customers (second group of projects). And finally, we have hybrid projects, that is, projects that provide benefits to both pre-existing and new ratepayers (third group of projects).³⁶ Certificate orders from the Commission can be classified and analyzed according to this taxonomy, since the categories are mutually exclusive and exhaustive.

a. Projects Conferring Benefits Only on New Customers

The first group of projects introduces expansion projects designed to benefit only new customers. In principle, unless there are extenuating circumstances, brand-new pipeline projects or expansion projects that are not part of a mainline system (*e.g.*, laterals to a single end-user) and are undertaken only for new customers should be financed on an incremental basis. However, by reviewing the certificate orders from the Commission since the 1999 Policy Statement certain vagueness comes up in the way the Commission applies the “threshold requirement” test. A first subgroup of certificate cases arises in which the Commission determined that where a pipeline proposes to charge incremental rates for service on new facilities, it *automatically* satisfies the “threshold requirement” of *no subsidization* by existing customers.³⁷ However, in another subgroup of proceedings, the Commission concludes that there will be no inappropriate subsidy of the new project by existing ratepayers where all the costs associated with the projects are paid by the new shippers *and* the incremental rates paid by the new shippers are higher than those paid by the

35. 1999 FERC Policy Statement, *supra* note 1, at 61,746 n. 12.

36. In its *Order Clarifying Statement of Policy*, 90 F.E.R.C. 61,128, at p. 61,392 (2000), the Commission recognizes this taxonomy of projects when it states “[t]here are three different types of projects: an expansion project to provide additional service, a project to improve service to existing customers by replacing existing facilities, improving reliability, or providing additional flexibility, and a project that combines an expansion for new service with improvements for existing customers.” *Id.*

37. Representative cases of the first group of projects are: *Tenn. Gas Pipeline Co.*, 115 F.E.R.C. ¶ 61,160 (2006); *Natural Gas Pipeline Co.*, 114 F.E.R.C. ¶ 61,061 (2006); *Wyom. Interstate Co., Ltd.*, 112 F.E.R.C. ¶ 61,327 (2005); *Tenn. Gas Pipeline Co.*, 110 F.E.R.C. ¶ 61,047 (2005); *Tex. Eastern Transmission, L.P.*, 101 F.E.R.C. ¶ 61,120 (2002); *Transcontinental Gas Pipe Line Corp.*, 100 F.E.R.C. ¶ 61,311 (2002); *Iroquois Gas Transmission System, L.P.*, 100 F.E.R.C. ¶ 61,275 (2002); *CMS Trunkline LNG Co., LLC*, 100 F.E.R.C. ¶ 61,217 (2002); and *Kern River Gas Transmission Co.*, 98 F.E.R.C. ¶ 61,205 (2002).

existing shippers.³⁸ Obviously, these two tests are not identical since the first test would qualify projects that fail the second test.

b. Projects Designed to Benefit Only Existing Customers

The second group of projects comprises expansion projects characterized by system-wide benefits which are enjoyed only by existing ratepayers. Projects designed to replace existing capacity, improve reliability and provide flexibility are for the benefit of the existing customers. As a consequence, an increase in the rates of the existing customers to pay for these improvements is not a subsidy. This type of case is relatively simple to deal with since there are no new customers enjoying benefits and the only option is to roll-in the costs.^{39, 40}

c. Projects Granting Benefits to Both New and Pre-existing Customers

Finally, the third group of projects creates benefits for both new and pre-existing customers. Hybrid projects are the most difficult cases because neither roll-in nor incremental pricing is the obvious choice. So far, the Commission

38. *East Tenn. Natural Gas Co. and Natural Gas Pipeline Co.* constitute clear examples of this practice. Likewise, in *PG&E Gas Transmission, Nw. Corp.*, PG&E proposes to charge incremental transportation rates “[b]ecause the incremental costs and volumes associated with this expansion [generates] cost-based rates that exceed PG&E’s generally applicable Rate Schedule FTS-1 rates” *East Tenn. Natural Gas Co.*, 98 F.E.R.C. ¶ 61,331; *Natural Gas Pipeline Co.*, 101 F.E.R.C. ¶ 61,125 (2002); *PG&E Gas Transmission, Nw. Corp.*, 99 F.E.R.C. ¶ 61,366 at P 9 (2002).

39. Representative proceedings of this second group of projects are *El Paso Natural Gas Co.*, 111 F.E.R.C. ¶ 61,408 (2005); *Southern Natural Gas Co.*, 110 F.E.R.C. ¶ 61,052 (2005); *Columbia Gas Transmission Corp.*, 109 F.E.R.C. ¶ 62,054 (2004); *Columbia Gas Transmission Corp.*, 108 F.E.R.C. ¶ 62,068 (2004); *Dominion Transmission, Inc.*, 107 F.E.R.C. ¶ 61,300 (2004); *Algonquin Gas Transmission Co.*, 108 F.E.R.C. ¶ 61,195 (2004); *ANR Pipeline Co.*, 108 F.E.R.C. ¶ 61,179 (2004); *TransCo. Gas Transmission Co.*, 106 F.E.R.C. ¶ 61,276 (2004); *Colo. Interstate Gas Co.*, 102 F.E.R.C. ¶ 61,246 (2003); *National Fuel Gas Supply Corp.*, 102 F.E.R.C. ¶ 62,083 (2003); *Clear Creek Storage Co., L.L.C.*, 101 F.E.R.C. ¶ 62,076 (2002); *Williston Basin Interstate Pipeline Co.*, 100 F.E.R.C. ¶ 62,007 (2002); *Norhwest Pipeline Corp.*, 99 F.E.R.C. ¶ 61,365 (2002); *Norhwest Pipeline Corp.*, 98 F.E.R.C. ¶ 61,352 (2002); *Dominion Transmission, Inc.*, 98 F.E.R.C. ¶ 62,186 (2002); *Williams Gas Pipelines Central, Inc.*, 94 F.E.R.C. ¶ 62,021 (2001); *Tex. Eastern Transmission Corp.*, 95 F.E.R.C. ¶ 62,031 (2000); and *Tex. Gas Transmission Corp.*, 90 F.E.R.C. ¶ 62,190 (2000). In *Cheyenne Plains Gas Pipeline Co., L.L.C.* (September 27, 2004) the Commission granted EnCana Marketing the same contractual ROFR as the original shippers to renew their expiring contracts and concluded that, because the proposal can proceed without subsidies, Cheyenne Plains may roll-in the costs. *Cheyenne Plains Gas Pipeline, L.L.C.*, 108 F.E.R.C. ¶ 62,269, at P 64,509 (2004).

40. More recently, *Maritimes & Northeast Pipeline* also constitutes an example of this second group of projects. *Maritimes & Ne. Pipeline, L.L.C.*, 115 F.E.R.C. ¶ 61,176, at P 61,636 (2006). On June 28, 2005, *Maritimes & Northeast Pipeline, L.L.C. (Maritimes)* and other parties to the instant general section 4 rate proceeding filed an offer of settlement to resolve all issues in the instant proceeding in relation to the Maritimes’s project to build pipeline facilities to transport gas from the United States-Canada border near Goldsboro, Nova Scotia, through Maine, New Hampshire, and Massachusetts to a terminus near Dracut, Massachusetts. *Id.* The Presiding Administrative Law Judge certified the Settlement to the Commission as contested on August 24, 2005. *See Maritimes & Northeast Pipeline, L.L.C.*, 112 FERC ¶ 63,019 (2005). The Order Approving Contested Settlement was issued by the Commission on May 15, 2006. 115 F.E.R.C. ¶ 61,176. The Settlement provides for a partial roll-in of 40 percent of Maritimes Phase III (from Methuen to Beverly, in Massachusetts) extension costs in mainline rates, partial recovery of 20 percent of the Phase III costs in a volumetric surcharge, and deferral of the remaining 40 percent of Phase III costs. 115 F.E.R.C. ¶ 61,176, at 61,637.

has not faced many cases where investments simultaneously provide both types of benefits from the same facilities.⁴¹

The Commission stated in the order clarifying the 1999 Policy Statement that existing customers should pay for the costs of projects designed to improve their service by replacing capacity, improving reliability, or providing additional flexibility.⁴² However, it stated that this approach does not justify rolling-in the entire cost of an expansion simply because existing customers receive some positive benefit from the construction of new facilities: “there must be a specific benefit from the project for existing shippers rather than generalized benefits resulting from the project being integrated into the system.”⁴³ The key factor as to whether to apply rolled-in versus incremental pricing to hybrid cases appears to be based on an inquiry to identify which group of ratepayers (new or pre-existing customers) the project was primarily designed to benefit.⁴⁴

In December 2000, the Commission denied Questar’s request for a predetermination supporting rolled-in treatment when it concluded:

While these factors may provide some benefit to Questar’s existing customers, it is clear that the project was not primarily designed to improve existing customers’ service. The M.L. No. 104 Project is an expansion project that primarily serves the specific needs of those identified expansion shippers. As the Commission explained in the order clarifying the Policy Statement, while existing customers should pay for the costs of projects designed to improve their service where the benefits are not tied to the provision of service to specific customers, this approach does not justify rolling-in the entire cost of an expansion simply because existing customers receive some positive benefit from the construction of the new facilities. In this case, the benefits of the project are tied to the provision of service to the expansion shippers. Any benefits that existing, non-expansion shippers may realize are tangential, and do not justify rolling-in the costs of this expansion project.⁴⁵

A similar decision was adopted by the Commission in its Order on Rehearing issued on November 8, 2005.⁴⁶ In spite of the fact that the Commission recognizes that the expansion project gives shippers on the original facilities certain (although limited) access to additional supplies and reliability benefits, it found that those benefits are not specific benefits from the project but

41. Illustrative certificate orders under these types of projects are *Questar Pipeline Co.*, 93 F.E.R.C. ¶ 61,279 (2000); *Algonquin Gas Transmission Co., Tex. E. Transmission Co.*, 96 F.E.R.C. ¶ 61,131 (2001); *Questar Pipeline Co.*, 110 F.E.R.C. ¶ 61,035 (2005); *Natural Gas Pipeline Co.*, 110 F.E.R.C. ¶ 61,341 (2005); *N. Border Pipeline Co.*, 115 F.E.R.C. ¶ 61,064 (2005); *Bay Gas Storage Co., Ltd.*, 113 F.E.R.C. ¶ 61,140 (2005); and *N. Border Pipeline Co.*, 115 F.E.R.C. ¶ 63,064 (2006). *Nw. Pipeline Corp.* might also be considered an illustrative example under this third group of projects. 98 F.E.R.C. ¶ 61,352, at p. 62,486 (2002). However, the Northwest Pipeline Corporation expansion, as the Commission describes it, appears to be two separate investments, one for new customers and one for pre-existing customers. If so, then the case involves separate projects from the first and second groups. 98 F.E.R.C. ¶ 61,352, at 62,496.

42. An example of the application of that policy is *Great Lakes Transmission*, 80 F.E.R.C. ¶ 61,105 (1997).

43. *Transcon. Gas Pipe Line Corp.*, 106 F.E.R.C. ¶ 61,299, at P 75 (2004).

44. Relevant examples of this approach are: *Questar Pipeline Co.*, 93 F.E.R.C. ¶ 61,279 (2000); *Questar Pipeline Co.*, 110 F.E.R.C. ¶ 61,035 (2005); *Natural Gas Co. of America*, 110 F.E.R.C. ¶ 61,341 (2005); and *Bay Gas Storage Co., Ltd.*, 113 F.E.R.C. ¶ 64,140 (2005).

45. See e.g., *Questar Pipeline Company*, 93 FERC ¶ 61,279, at p. 61,925 (2000) (footnote omitted).

46. The Order on Rehearing reversed a prior decision issued by the Commission on June 2, 2005, that approved a rolled-in approach for Bay Gas’s original system and Whistler spur facilities. *Bay Gas Storage Co., Ltd.*, 115 F.E.R.C. ¶ 61,049 at P 61,130 (2006).

generalized benefits resulting from the project being integrated into the system. The Commission concludes that Bay Gas has not shown any real improvement in the pre-expansion service and sufficient benefits to shippers on the original facilities to justify the increase in the rates that roll-in would cause.⁴⁷

The issue then in “hybrid” cases is whether there has been an evidentiary showing sufficient to justify rolled-in treatment. In *Transcontinental Gas Pipe Line Corporation* (March 26, 2004), the Commission affirmed the presiding Administrative Law Judge’s (ALJ’s) December 3, 2002, Initial Decision finding that rolled-in rate treatment for the Cherokee, Pocono, and SunBelt projects is not appropriate. However, it reversed the ALJ when it found Transcontinental Gas Pipe Line Corporation’s (Transco’s) proposal to roll in the costs of the Mobile Bay expansion to be just and reasonable. On August 5, 2005, the FERC issued an order denying the rehearing requests challenging the FERC’s acceptance of Transco’s proposal for rolled-in rates for the Cherokee, Pocono, and SunBelt projects.⁴⁸ The Commission affirmed the ALJ’s rejection of Transco’s proposal to roll in the costs of these three projects. Like the prior Order on March 26, 2004, the Commission found that there was no evidence of any real improvement in the existing customers’ services (such as the need for fewer operational flow orders, better access to competitive gas supplies, etc.) and accordingly required that Transco implement incremental rates for the Cherokee, Pocono, and SunBelt projects. August 5, 2005, FERC Order further reaffirmed the roll-in of the Mobile Bay expansion.

In *Northern Border Pipeline Company* (June 13, 2006), the Commission denied rolled-in treatment to Northern Border of its gas plant acquisition adjustment. The Commission concluded that Northern Border failed to meet its burden of proof when it did not “provide evidence in two areas: (1) the rate impact of the project on existing customers[,] and (2) the specific and quantifiable benefits that accrue to the system as a result of the new capacity in comparison to the rate impact.”⁴⁹

The *Northern Border Pipeline Company* (2005) case introduces some uncertainty in the methodology employed by the Commission to apply rolled-in versus incremental pricing in this third group of projects.⁵⁰ Cases like *Questar*⁵¹

47. 113 F.E.R.C. ¶ 61,140 at P 61,568. On April 14, 2006, Bay Gas’s request for rehearing of the Commission’s order dated November 8, 2005, was denied. 115 F.E.R.C. ¶ 61,049 at P 61,130.

48. ALJ’s Initial Decision was issued on December 3, 2002. *Transcon. Gas Pipe Line Corp.*, 101 F.E.R.C. ¶ 63,022 (2002). On April 26, 2004, several parties, including Transco, filed requests for rehearing of the FERC’s March 26, 2004, Order. The Commission’s March 26, 2004, Order can be found at *Transcon. Gas Pipeline Corp.*, 106 F.E.R.C. ¶ 61,299 (2004). On August 5, 2005, the FERC issued an order denying the rehearing requests. *Transcon. Gas Pipe Line Corp.*, 112 FERC ¶ 61,170 (2005). On September 6, 2005, several parties, including Transco, filed requests for rehearing of the FERC’s August 5, 2005 Order. In addition, several parties, including Transco, filed in the United States Court of Appeals for the District of Columbia Circuit (D.C. Circuit Court) seeking to have the FERC’s ruling on this issue overturned. See December 3, 2002, Initial decision and March 26, 2004, Order for a full procedural history and background of the case.

49. *N. Border Pipeline Co.*, 115 F.E.R.C. ¶ 63,064 at P 65,297 (2006) (quoting *KN Interstate Gas Transmission Co.*, 85 F.E.R.C. ¶ 63,004 (1998)).

50. *N. Border Pipeline Co.*, 112 F.E.R.C. ¶ 61,196 (2005).

51. *Questar Pipeline Co.*, 93 F.E.R.C. ¶ 61,279 (2000).

(2000) or *Bay Gas Storage Company, Ltd.*⁵² (2005) suggested that the key element was to identify which group of ratepayers (new or pre-existing customers) the project was primarily designed to benefit. However, in *Northern Border Pipeline Company* (2005), the Commission's language appears to suggest that revenues in excess of incremental costs is a necessary and sufficient condition for rolled-in treatment independent of who enjoys the benefits of the expansion and/or support the cost of the investment: "[g]enerally, to receive authorization for rolled-in rate treatment, a pipeline must demonstrate that the revenues to be generated by an expansion project will exceed the costs of the project."⁵³

The Commission issued Northern Border a certificate authorizing the expansion, subject to conditions, but denied its request for a pre-determination favoring rolled-in rates on the basis that the revenue generated by the new service using the currently effective maximum rates does not cover the cost-of-service associated with the project.⁵⁴

3. Inexpensive Expansibility Cases and the "Changed Circumstances" Argument

The first three categories classify the projects according to the distribution of benefits among existing and new customers created by the expansion investments. In addition to these three general types of projects, the Commission's 1999 Policy Statement points to the fact that the causation of benefits can run in the other direction as well, creating a fourth category. That is, prior investments for the benefit of existing customers can create later benefits for new investment as well. The Policy Statement identifies inexpensive expansion projects providing benefits mainly to new customers that were made possible because of *earlier* costly expansion projects.⁵⁵ Unlike the previous three groups of cases, individual proceedings under the fourth group of cases do not fall into mutually exclusive groups.

The 1999 Policy Statement correctly notes that "new customers would not face the full costs of the construction that makes [the] new service[s] possible" if incremental pricing is applied in the situation of "inexpensive expansibility," *i.e.*, where the inexpensive expansion of facilities was made possible because of prior costly construction.⁵⁶ Since the existing customers bear the cost of the earlier, more costly construction or acquisition in their rates, incremental pricing of the expansion could result in the new customers receiving a subsidy from existing customers because the new customers would not face the full cost of the construction that makes the new service feasible. In such an instance, the Commission requires rolled-in rate treatment because it will reduce the rates of the existing customers.⁵⁷

52. *Bay Gas Storage Co., Ltd.*, 113 F.E.R.C. ¶ 61,140 at P 23 (2005).

53. *N. Border Pipeline Co.*, 112 F.E.R.C. ¶ 61,196 at P 21 (2005).

54. *Id.* at ¶ 62,030.

55. *Statement of Policy*, 88 F.E.R.C. ¶ 61,227, at p. 61,746 (1999).

56. *Id.*

57. In *Chandeleur Pipeline Company*, the Commission sheds some light on the treatment of "inexpensive expansibility" cases when it states that "inexpensive expansibility" does not establish an

However, a certain ambiguity arises in the way the Commission applies the inexpensive expansibility test. More specifically, the actual certificate cases imprecisely define the necessary and sufficient conditions required to apply rolled-in pricing that were not clearly articulated in the Policy Statement. Two different tests seem to be applied by the Commission: (a) a *two-step test* in which, *first*, the Commission, identified either a specific prior investment that benefits new consumers, and *second*, it confirmed that rolling-in the costs of successful projects would produce lower rates for existing customers; and (b) a *one-step test* in which the inexpensive expansibility test has been reduced to merely testing whether rolling-in the costs of successful projects would lower rates for existing ratepayers.

(a) *Two-step test for the approval of rolled-in projects*: In a first group of inexpensive expansibility cases the Commission presented a two-step test to obtain approval of rolled-in. From the analysis of the certificate cases, it seems that the Commission uses two different methodologies to check whether rolling-in a project would lead to lower existing rates. In a first subgroup of cases, the second step of the inexpensive expansibility test specifically checks whether or not rolling-in the project would generate lower rates for the existing customers. Under this subgroup of cases the “lower existing rates” test appears to constitute a necessary condition to apply the rolled-in pricing methodology under inexpensive expansibility.⁵⁸ In a second subgroup of cases, the Commission does not check the effect on rates specifically but observes that incremental revenues of the proposed project exceed the incremental costs. The necessary condition to apply rolled-in pricing is thus a “revenues in excess of incremental cost” test rather than the “lower existing rates” test.⁵⁹ In reality, it can be easily proved that when the “revenues in excess of incremental costs” test is met, rolling-in the project will lead to “lower existing rates” if, and only if, incremental projected revenues have been computed as a function of the pre-existing rates.⁶⁰ The FERC methodology requires applicants to calculate incremental projected revenues by using the pre-existing rates. Thus, both tests, the “revenues in excess of incremental cost” test and the “lower existing rates” test become interchangeable and certificate cases under these two subgroups of projects are fairly grouped into one single set of certificate cases.

(b) *One-step test for the approval of rolled-in projects*: In practice, a second group of certificate cases arises in which it appears that the inexpensive

exception to the no subsidy requirement but “is rather an exception to the Policy Statement’s preference for incremental rates.” *Chandeleur Pipeline Co.*, 108 F.E.R.C. ¶ 61,181 at P 9 (2004).

58. Representative of these cases is *Transwestern Pipeline Co.*, 90 F.E.R.C. ¶ 61,032 (2000) and *Dominton Transmission, Inc.*, 99 F.E.R.C. ¶ 61,367 (2002).

59. A representative of this subgroup of cases is, *Southern LNG, Inc.*, 103 F.E.R.C. ¶ 61,029 (2003). This proceeding specifically cites the Elba Island Terminal stating, “In this case, the fact that the *expected revenues of the proposed expansion will exceed its costs* reflects the expansion’s reliance on earlier, costly construction undertaken in the 1970s to establish the Elba Island terminal and since July 2001 to refurbish facilities and reestablish service at the dormant terminal.” *Id.* at P 43 (footnotes omitted and emphasis added).

60. It is easy to demonstrate that incremental revenues in excess of cost of the expansion do not necessarily lower existing rates. Only when incremental revenues have been computed as a function of the pre-existing rates paid by the existing customers (as it is required by FERC methodology) can it be concluded that revenues in excess of incremental costs constitutes a necessary and sufficient condition for rolled-in pricing to reduce rates to existing customers (formal proof on file with author).

expansibility test has been reduced to merely testing whether rolling-in the costs of successful projects would lower rates for existing ratepayers (one-step test). In effect, a sufficient condition to determine whether inexpensive expansibility applies is whether or not rolling-in the facilities' costs will lower the rates for existing shippers.^{61, 62}

The inexpensive expansibility cases do not fall into mutually exclusive groups from the first three groups. For instance, *Eastern Shore Natural Gas Company*⁶³ (June 4, 2002), *Tennessee Gas Pipeline Company*⁶⁴ (August 1, 2000), and *Iroquois Gas Transmission System*⁶⁵ (October 31, 2002) could also be argued to belong to the third Group of cases since the Commission recognized that these projects also provided certain system benefits in terms of reliability, flexibility, and improved level of service to pre-existing customers.

Moreover, the Commission stated that the policy in favor of rolled-in pricing in cases of inexpensive expansions may be reversed in future cases. For example, revenues from new transmission facilities may initially be in excess of incremental cost, thereby requiring rolled-in pricing. But later, the same facilities may incur costs beyond the incremental revenues. In such a "changed circumstance," the Commission indicated that the presumption in favor of rolled-in pricing will be reexamined, *i.e.*, the ratemaking methodology would switch back to incremental pricing, thereby requiring the pipeline to bear the costs of any shortfall. In other words, what is rolled-in today may be incrementally priced tomorrow if the circumstances change sufficiently to conclude that the expansion investments do not provide rate benefits to existing customers. This is most clearly stated in *Iroquois Gas Transmission System*:

As stated above, the Commission precludes pipelines from relying on subsidization from existing customers to support new service. Our predetermination that Iroquois may roll in the costs of its expansion in its next general rate proceeding is based on Iroquois' projections that the revenues from the Brookfield Projects will exceed its cost of service. *If circumstances change, e.g., the projected costs are exceeded to the extent that there would be no revenue benefit to existing customers, then*

61. An example of this decision can be found in, *Dominion Transmission, Inc.*, 99 F.E.R.C. ¶ 61,367 (2002). For examples of other certificate proceedings either approving or requiring roll-in where the Commission finds that rolling in the costs of successful projects would result in a rate decrease for existing shippers, *see also*, *Bay Gas Storage Co., Ltd.*, 111 F.E.R.C. ¶ 61,345 (2005); *Colo. Interstate Gas Co.*, 111 F.E.R.C. ¶ 61,331 (2005); *N. Natural Gas Co.*, 103 F.E.R.C. ¶ 62,028 (2003); *S. Star Central Gas Pipeline, Inc.*, 102 F.E.R.C. ¶ 62,165 (2003); *ANR Pipeline Co.*, 101 F.E.R.C. ¶ 61,376 (2002); *Tenn. Gas Pipeline Co.*, 101 F.E.R.C. ¶ 61,360 (2002); *S. LNG, Inc.*, 101 F.E.R.C. ¶ 61,187 (2002); *Iroquois Gas Transmission System, L.P.*, 101 F.E.R.C. ¶ 61,131 (2002); *Reliant Energy Gas Transmission Co.*, 99 F.E.R.C. ¶ 61,271 (2002); *E. Shore Natural Gas Co.*, 99 F.E.R.C. ¶ 61,274 (2002); *Fla. Gas Transmission Co.*, 98 F.E.R.C. ¶ 61,217 (2002); *Tuscarora Gas Transmission Co.*, 96 F.E.R.C. ¶ 61,356 (2001); *Tenn. Gas Pipeline Co.*, 92 F.E.R.C. ¶ 61,142 (2000).

62. As we have pointed out in some paragraphs above, the November 8, 2005, Order found that the rate calculations upon which the *Bay Gas Storage Co., Ltd.* Order (June 2, 2005) had been based were in error. Thus, the Commission reversed its initial decision to approve a rolled-in approach for Bay Gas's original system and Whistler spur facilities. *Bay Gas Storage Co., Ltd.*, 113 F.E.R.C. ¶ 61,140 at P 24.

63. *Eastern Shore Natural Gas Co.*, 99 F.E.R.C. ¶ 61,274.

64. *Tenn. Gas Pipeline Co.*, 92 F.E.R.C. ¶ 61,142.

65. *Iroquois Gas Transmission System, L.P.*, 101 F.E.R.C. ¶ 61,131.

*Iroquois will not be authorized to roll the costs of the Brookfield Project into its system rates and will have to develop incremental rates for the service.*⁶⁶

The Commission recognizes that the most appropriate pricing approach for expansions on a particular pipeline may change over time. However, the language of the Iroquois Order seems to suggest that the Commission is not relying on the “costs follow benefit” principle to determine whether rolled-in or incremental pricing is the proper pricing approach for a specific expansion project when circumstances change. The cost of the expansion project is not allocated based on the relative benefit received by each type of customer (either existing or new customer). In fact, the only decision variable that determines whether an expansion project will be granted rolled-in pricing is whether the projected benefits of the project exceed its costs. If the circumstances of the project change such that the existing payers do not enjoy a reduction on their rates as a result of the rolled-in pricing approach the expansion project will then be required to be incrementally priced. The decision to grant rolled-in status is independent of whether or not the expansion project provides benefits to the existing customers. Obviously the effect of such a policy is to confer the benefits of the “good years” onto existing ratepayers through forced roll-in and require pipeline investors to bear the cost of “bad years” through a forced switch to incremental pricing.

The “changed circumstances” argument was employed by the ALJ’s Initial Decision, (*Transcontinental Gas Pipeline Corporation*, December 3, 2002) to reject Transco’s proposal to roll-in the Mobile Bay costs in the rate case. The Initial Decision determined that circumstances have changed that prevented Transco from rolling-in the costs of the Mobile Bay Project. The Initial Decision seemed to employ the “cost follow benefit” principle when it argued in favor of incremental pricing in the Mobile Bay project. The Initial Decision found that the changed circumstance was that a Transcontinental Gas Pipe Line Corporation’s affiliate was the only shipper subscribed to the Mobile Bay Project. The Initial Decision held that the fact that a Transco affiliate would benefit one-hundred percent from an expansion for which it shouldered only forty-one percent of the costs is an unreasonable subsidization by existing customers and an undue preference between corporate affiliates.⁶⁷ On August 5, 2005, the Commission issued its Order on Rehearing that reversed the ALJ’s decision and affirmed the roll-in of the Mobile Bay expansion.

4. Rolled-in Pricing in Non-Competitive Markets

The Commission issued Order Nos. 2005, and 2005-A, on February 9, and June 1, 2005, respectively, establishing the open-season regulations to govern any Alaska natural gas pipeline facilities.⁶⁸ In these Orders, the language of the

66. *Iroquois Gas Transmission System, L.P.*, 101 F.E.R.C. ¶ 61,131 at P 30 (2002) (emphasis added). A similar statement is found in *Southern Natural Gas Co.* when the commission states, “Accordingly, barring changed circumstances, we approve Southern’s request to roll-in the subject costs in a future Section 4 rate proceeding. However, if there are changed circumstances, Scana may challenge the roll-in of these costs in Southern’s next rate case.” 110 F.E.R.C. ¶ 61,052 at P 71 (2005) (emphasis added).

67. *Transcon. Gas Pipe Line Corp.*, 101 F.E.R.C. ¶ 63,022 at P 107 (2002).

68. Order No. 2005, *Regulations Governing the Conduct of Open Seasons for Alaska Natural Gas Transportation Projects*, F.E.R.C. STATS. & REGS. ¶ 31,174 (2005), 70 Fed. Reg. 8269 (2005) (18 C.F.R. pt.

Commission seems to suggest that the actual and future degree of competition in the market constitutes a relevant variable to permit either rolled-in or incremental rates. The Commission concluded that rolled-in rates are also appropriate exceptions to the incremental pricing policy in markets in which there is no pipeline-to-pipeline competition because incremental rates in this case would discriminate against new customers:

In this rule, the Commission does not adopt a firm pricing policy for future expansions of an Alaska natural gas transportation project, but we do take this opportunity to provide guidance on this important issue, as it will assist participants in the initial open season. We conclude that there should be a rebuttable presumption in favor of rolled-in pricing for project expansions. Our existing lower-48 states policy favoring incremental rates for expansions does not apply in the case of an Alaska natural gas transportation project. There is likely to be only one Alaska pipeline, so there will be little or no opportunity for competition between pipelines. Incremental pricing of expansion could put expansion shippers at a significant rate disadvantage compared with initial shippers, and accordingly could discourage exploration, development and production of Alaska natural gas.⁶⁹

In Order Nos. 2005 and 2005-A, the Commission established a presumption in favor of rolled-in, as opposed to incremental, pricing of expansion facilities and concluded that rolled-in pricing may spur the investments needed to deliver gas to the lower forty-eight states and may reduce barriers to future exploration, development and production of Alaska natural gas.

IV. LITERATURE REVIEW: INCREMENTAL VS. ROLLED-IN PRICING METHODOLOGY

This section presents the arguments in favor of and against the use of incremental versus rolled-in pricing methodology available in the economic literature.⁷⁰ It should be emphasized that in reviewing and discussing this literature, this paper is not endorsing the arguments presented. Rather, the review is intended to provide a comprehensive presentation of what has been said on the subject.

A. *Arguments in Favor of Rolled-in Pricing Methods*

Several authors support the use of rolled-in pricing under particular circumstances. Picker (2004) notes that under the presence of positive network externalities that benefit pre-existing users from addition of new users, full cost

157); Order No. 2005-A, *Regulations Governing the Conduct of Open Seasons for Alaska Natural Gas Transportation Projects*, F.E.R.C. STATS & REGS. ¶ 31,187 (2005), 70 Fed. Reg. 8269 (2005) (codified at 18 C.F.R. § 157).

69. Order No. 2005, *supra* note 68, at P 123. A similar statement is also made in Order No. 2005-A, *supra* note 68, at P 49.

70. For a review of the general economics of public utility pricing and the traditional principles of rate design and cost allocation, see 1 KAHN, *supra* note 9, at 17-25, 69-70; 2 ALFRED E. KAHN, *THE ECONOMICS OF REGULATION*, VOLUME II, 243-46 (MIT Press 1988) (1970); JAMES C. BONBRIGHT, *PRINCIPLES OF PUBLIC UTILITY RATES* (1961); RICHARD J. PIERCE & ERNEST GELLHORN, *REGULATED INDUSTRIES IN A NUTSHELL* 2, 11, 47-48, 94-95 (4th ed. 1999); CHARLES F. PHILLIPS, *THE REGULATION OF PUBLIC UTILITIES: THEORY AND PRACTICE* (2d ed. 1988); JAMES C. BONBRIGHT, ALBERT L. DANIELSON & DAVID R. KAMERSCHEN, *PRINCIPLES OF PUBLIC UTILITY RATES* (2d ed. 1988). The same ratemaking objectives and desirable attributes of rate structure presented in the general economics of public utility pricing are also applicable to natural gas pipelines. AMERICAN GAS ASSOCIATION RATE COMMITTEE, *GAS RATE FUNDAMENTALS* ch.8 (1987).

internalization (through incremental pricing) will push too many costs onto new users.⁷¹ Thus, some sort of sharing, *i.e.*, rolling-in, is preferable to incremental pricing. The same opinion is shared by John Wilson (1983) when, in the context of the telecommunications industry, he claims that there are circumstances where rolled-in ratemaking can serve a valuable purpose. For instance, Wilson argues that there is a logic to the roll-in of some local exchange plant costs since a local exchange plant is constructed to serve not merely the local subscriber but the entire system.⁷²

A report written by Energy Markets Limited and Rambøll (2000) for the European Commission Directorate-General for Transport and Energy advocates using rolled-in pricing methodology to recover capital spending for incremental pipeline capacity.⁷³ The authors recommend that the European Commission maintains the presumption in favor of rolled-in methodology “unless compelling evidence is presented by the pipeline that incremental pricing should be used,”⁷⁴ based on the following grounds:

[b]efore deregulation, generally all pipeline capital investment was rolled-in and the cost spread over the existing customers. Those markets which have been deregulated the longest (UK, North America and parts of Latin America) show that as unbundling became more widespread there were more cases of incremental pricing. However the general presumption still is that pipeline capital investment is rolled-in to the existing asset base and recovered from all customers. Experience suggests that competition and trading develop faster when there is slight excess capacity rather than capacity shortages. “Rolled-in” pricing is more likely to ensure that capacity is built and made available.⁷⁵

In the context of promoting a competitive gas market in the EU, the Energy Markets Limited and Rambøll Report (2000) enumerates a number of advantages that, in its opinion, support pricing incremental capacity on a “rolled-in” basis:

[(a)] [i]t enables main line extensions and new markets to be developed at lower prices to these markets than pricing on an incremental basis; [(b)] [e]ventually all pipeline customers benefit from increased throughput and economies of scale, therefore all customers should pay; [(c)] [e]xpansions and extensions will get built which otherwise would not get built, bringing operational and financial benefits to the system as a whole; [(d)] [b]y bringing new shippers and customers onto the system, rolled-in pricing will promote competition and provide a level playing field for competitors; [(e)] [i]t encourages infrastructure development, especially relevant for immature markets and growing markets; [and] [(f)] [i]t provides a mechanism to extend systems to rural and disadvantaged areas, meeting social and other national objectives.⁷⁶

71. R. Picker, *Rate of Return Regulation: The Constitutional Framework*, Lecture at Univ. of Chicago, Law School, available at <http://picker.uchicago.edu/NetIndus/Syllabus.htm> (notes from the course on “Network Industries”) [hereinafter Picker].

72. John Wilson, *Telephone Access Costs and Rates*, FORTNIGHTLY MAGAZINE PUBLIC UTILITIES REPORT, Sept. 15, 1983, at 19.

73. ENERGY MARKETS LIMITED & RAMBØLL, *TRADING OPPORTUNITIES AND PROMOTION OF TRANSPARENCY IN THE INTERNAL GAS MARKET* (Study for the European Commission Directorate-Generale for Transport and Energy) (DG TREN/B3) (August 2000) [hereinafter ENERGY MARKETS LIMITED & RAMBØLL].

74. *Id.* at 94.

75. ENERGY MARKETS LIMITED & RAMBØLL, *supra* note 73, at 15.

76. *Id.* at 85.

Similar conclusions are also shared in a report by Energy Markets Limited written in 2005.⁷⁷ This study considers international experience in different countries in Europe, Victoria in Australia, and The United States to promote competition in the UK gas market. Energy Markets Limited (2005) further analyses the different methods to allocate the costs of gas infrastructures in all these jurisdictions: (a) rolled-in rates; (b) joint ventures with participation limited to parties involved in associated gas deals and/or the operator in the transit countries involved; (c) open season when the pipeline is charged for on an incremental basis; and (d) exemption from Third-Party Access (TPA) principles for major new projects. Energy Markets Limited (2005) notes that there is no consistent pattern across EU regarding the methods to allocate the costs of gas infrastructures: (i) rolled-in pricing has been adopted in Italy and the UK; (ii) joint ventures approach has been used widely in Germany, Belgium, UK, Austria, Switzerland and Poland;⁷⁸ (iii) the incremental approach has been implemented in the pipeline project between Bacton in the UK and Zeebrugge in Belgium;⁷⁹ and (iv) finally, TPA exemptions are heavily used in Europe (including the UK market).⁸⁰

Alfred Kahn (1988) states that, in those cases in which demand by all customers for system capacity creates the need for the expansion, it is economically desirable to attribute the costs of the expansion to every user of the system, regardless of the order in which they arrive on the system.⁸¹ He concludes that because the demand for system capacity for all customers creates the need for system expansion, every shipper is economically marginal. And thus, the costs of the expansion may equitably be attributed to every user, regardless of when it first contracted with the pipeline.

Suppose, for example, the utility has two groups of customers, one, A, whose demand is stable, another, B, whose demand is increasing. And suppose expansion of the latter demand finally requires expansion of capacity. Does that mean, following our rules of peak responsibility pricing, that B are the marginal buyers on whom capacity costs alone should be imposed? Obviously not. True, it is the

77. ENERGY MARKETS LIMITED, 1 CONDITIONS FOR TRULY COMPETITIVE GAS MARKETS IN THE EU (Report for the Department of Trade and Industry (DTI), United Kingdom), *available at* http://www.dti.gov.uk/files/file_33154.pdf [hereinafter ENERGY MARKETS LIMITED II].

78. A similar approach was also taken for the Interconnector project linking UK and Belgium.

79. Long-term auctions were also put in place by the UK regulator, Ofgem, to undertake new investments in gas infrastructures. Energy Markets Limited (2005) notices that these auctions “were effectively Open Seasons [that is, incrementally priced] since the minimum price was set at the Long Run Marginal Cost and those who bid the [long-run marginal cost] were allocated the new capacity.” ENERGY MARKETS LIMITED, CONDITIONS FOR TRULY COMPETITIVE GAS MARKETS IN THE EU 90 (2005), *available at* http://www.energymarkets.eu.com/news/reports/Conditions_for_True_Competition.pdf. The Open Season methodology is also used extensively in the United States.

80. EU Gas Directive (98/30/EC) requires member state regulators to apply regulated TPA principles to pipelines and LNG terminals with oversight by European Commission. Exemptions may be granted if certain conditions are met: (a) the exemption must enhance competition and security of supply; (b) project risk is such that “the investment would not take place unless an exemption was granted”; and (c) there is no harm to the “regulated system to which the infrastructure is connected.” Ofgem as already granted exemptions for three proposed LNG terminals. TPA exemptions are also found in the Australian gas market. LNG FACILITIES AND INTERCONNECTORS: EU LEGISLATION AND REGULATORY REGIME (Nov. 2003), *available at* http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/5158_LNG_facilities_intercenters_EU_legis_reg_25nov03.pdf?wtfrom=/ofgem/whats-new/archive.jsp.

81. 1 KAHN, *supra* note 9.

increase in B's purchases that precipitates the additional investment; but the additional costs could just as well be saved if A reduced their purchase as if B refrained from increasing theirs. So A's *continuing* to take service is just as responsible, in proportion to the amount they take, for the need to expand investment as B's increasing needs, and A should therefore be forced just as much as B to weigh the marginal benefits of the capacity to them against the marginal costs they impose on society by continuing their demands. . . . Both should be forced to match those higher capacity costs against the satisfaction they derive from continuing to use the service.⁸²

This logic was first articulated in the *Battle Creek* Order, as discussed above.

B. Criticisms of the Rolled-in Pricing Methodology

Reiter and Cook (1999), in the context of electric distribution plant expansions, present arguments against an indiscriminate application of rolled-in pricing:⁸³

In an era where competitive alternatives to monopoly services have developed, however, indiscriminate application of rolled-in pricing may actually harm the consumers it is intended to protect by masking the true cost of utility expansions in relation to available alternatives. The problem created by rolled-in pricing of electric distribution plant expansions is this: the costs of expanding distribution plant to serve new or increased electric load are hidden when they are spread among the utility's entire customer base. Consumers may forego consideration of other, truly cheaper alternatives because they only pay a fraction of the actual cost of the plant expansion. The result is a mis-allocation of scarce resources and a reduction in competition from alternative technologies.⁸⁴

A similar argument is shared by the Australian Competition and Consumer Commission (ACCC) in a report written in 2003, and by Herbert (2004).⁸⁵ The ACCC analyzes the potential concerns on using rolled-in versus incremental pricing approach. ACCC concludes that a bias in favor of rolled-in pricing may diminish the investment attractiveness on new pipeline infrastructure, deter the entry of new competitors and create uncertainty in investment conditions:

rolling-in the costs of expansions is also problematic. For example: [(i)] A rolled-in tariff may deter investment in an alternative pipeline. Under a roll-in, the cost of expansion is averaged over all users. Therefore prospective users would not pay the marginal cost of incremental expansion but the average cost of all capacity. As a result, expansion of an existing pipeline is likely to be preferable on the basis of cost than the development of a new pipeline for prospective users. This disincentive for a new pipeline to be constructed can prevent the entry of a competitor[;] [and] [(ii)] A rolled-in tariff, particularly one which estimates tariffs depending on the

82. *Id.* at 140.

83. H.L. REITER & C. COOK, RATE DESIGN, YARDSTICK REGULATION AND FRANCHISE COMPETITION: AN INTEGRATED APPROACH TO IMPROVING THE EFFICIENCY OF THE 21ST CENTURY ELECTRIC DISTRIBUTION (1999), available at <http://www.e3energy.com/reit-cook.pdf> [hereinafter REITER AND COOK].

84. *Id.*

85. AUSTRALIAN COMPETITION AND CONSUMER COMMISSION, SUBMISSION TO THE PRODUCTIVITY COMMISSION REVIEW OF THE GAS ACCESS REGIME 97, (2003), available at <http://www.aer.gov.au/content/index.phtml/itemId/681035/fromItemId/681030> [hereinafter ACCC SUBMISSION]; and Curt Herbert, *Profit Without Costs: An Analysis of Participant Funding in Natural Gas and Electricity Markets*, 142 FORTNIGHTLY MAGAZINE PUBLIC UTILITY REPORT, Aug. 2004, at 40-48 [hereinafter Herbert].

amount of expansion which takes place, results in a degree of uncertainty for users.⁸⁶

Herbert advocates the use of incremental pricing when overlaid on a new deregulated and competitive environment. The author claims that as the industry becomes more competitive the best way for the FERC to accomplish its goals for a deregulated marketplace is to abandon its presumption for rolled-in pricing:

This presumption, born at a time when the industry was highly regulated, did not translate to a competitive marketplace where only the most economic expansions should be tolerated by the American consumer. The marketplace creates the incentives for siting of expansions, and accurate pricing signals ensure the correctness of those decisions.⁸⁷

Morey (2003) discusses the regulation of independent transmission companies through performance-based and price-cap regulation.⁸⁸ The author examines the potential benefits for transmission customers associated with the implementation of a price-cap plan and explores the efficiency of alternative pricing structures to recover the cost of transmission facilities. The author concludes that:

[w]hile the design of efficient pricing structures to recover the costs of transmission infrastructure in the presence of network externalities has always been more art than science, traditional designs using average rates based on rolled-in methods are well recognized to be inefficient. If customers are homogeneous, average prices are fairly simple to apply, but when customers are heterogeneous, average cost pricing of rolled-in costs becomes more complicated and problematic. Consumers as a whole can be made better off if the utility discriminates even a little based on characteristics of customer classes (again, a well known result). Consequently, the designs traditionally used to price transmission have included very little price discrimination, and therefore, fostered cross-subsidies between and within customer classes as the rule rather than the exception. Both license plate and postage stamp rate designs perpetuate this inefficiency and are less efficient for this reason.⁸⁹

Morey further maintains that “[r]olled-in pricing methods can still be used for recovering costs of deep system facilities that provide reliability benefits to all customers, but the allocation of those costs may still be based on more efficient designs that reflect cost causation (such as distance sensitive access charges and related designs).”⁹⁰

The Commission’s prior rolled-in pricing policy has been subject to the criticism that it produced an anti-competitive effect. For instance, Reiter and Cook argued that, rolling-in the costs of pipeline expansions may lead to unfair competition in the market since “a pipeline with a depreciated rate base can underprice its competitors, even though its incremental costs of expansion may be higher than the incremental costs of its competitors.”⁹¹

86. ACCC SUBMISSION, *supra* note 85, at 97-98.

87. Herbert, *supra* note 85, at 45.

88. Matthew J. Morey, *Performance-Based Regulation for Independent Transmission Companies: Delivering the Promise of Standard Market*, 16 THE ELECTRICITY JOURNAL 5, 35-51 (2003), available at http://www.ksg.harvard.edu/hepg/Papers/Morey_performance.based.reg.itcs_1-19-03.pdf [hereinafter Morey].

89. *Id.*

90. Morey, *supra* note 88, at 3.

91. REITER AND COOK, *supra* note 83, at 17.

C. Arguments in Favor of the Incremental Pricing Methodology

Arguments in favor of the use of incremental pricing methods mirror the criticism of the rolled-in method. Picker compares both pricing methods and concludes that incremental pricing preserves a level playing field for competition between an incumbent and entrant, in contrast to rolled-in pricing that gives an incumbent a decided advantage.⁹²

As discussed above, the Energy Limited and Rambøll Report (2000) advocates the use of rolled-in pricing. However, the report also opens the possibility to the use of incremental pricing under different circumstances. More specifically, it points out that as markets deregulate and unbundled services develop, the case for incremental pricing becomes stronger:

[i]ncremental pricing, however, is seen as appropriate in a number of cases where the beneficiaries of the investment are easily identifiable, where rolling-in would cause an excessive increase in the existing rates, where the projects contemplate an entirely new service or where the additional facilities have not been fully booked in advance and there is an element of “at-risk” investment.⁹³

D. Criticisms of the Incremental Pricing Methodology

Several authors maintain that the 1999 Pricing Policy Statement would make new infrastructure more expensive and as a consequence it may limit new expansions.⁹⁴ The ACCC maintains that a bias in favor of incremental pricing may promote unfair competition in the market, limit new entry in the market, and reduce the incentive to finance the expansion of the pipeline infrastructure.^{95, 96}

Swanson, in a paper written in 2000, stresses that incremental pricing, the large capital costs required for the construction of pipeline infrastructures, the reluctance of local distribution companies to sign long-term transportation contracts, and the price advantages to a pipeline affiliate will diminish the

92. Picker, *supra* note 71.

93. ENERGY MARKETS LIMITED AND RAMBØLL, *supra* note 73, at 55. *See Id.* at 84-85 for a more extensive discussion of this issue.

94. *See generally* Edward Grenier, *Focus on Industrial Sector: The Quiet Giant*, in NATURAL GAS: INDUSTRY ANALYSIS FOR GAS YEAR 2000-2001 210 (Robert E. Willet ed., 2000); Carl V. Swanson, *New Structure Pipeline Industry Could be Similar to Pre-NGA*, in NATURAL GAS: INDUSTRY ANALYSIS FOR GAS YEAR 2000-2001 248 (Robert E. Willet ed., 2000) [hereinafter Swanson]; Picker, *supra* note 71; and ENERGY MARKETS LIMITED II, *supra* note 77.

95. The ACCC maintains that under the incremental approach methodology there is likely to be multiple tariffs for the same service. This fact would imply that a level playing field would not exist in down stream markets. The ACCC then concludes that “[i]f prospective entrants into either gas retail or electricity generation markets had to pay significantly higher tariffs for gas transportation, this might affect their ability to compete in those markets and therefore the likelihood and effectiveness of their entry.” ACCC SUBMISSION, *supra* note 85, at 97. The ACCC further claims that the incremental costs of expansion are not constant. As a result, if the next stages of an expansion project are relatively more expensive than existing capacity, prospective users may be reluctant to finance the expansion of a new pipeline. *Id.*

96. In section III.B we notice that the ACCC claims that a bias in favor of rolled-in pricing, under different circumstances, might have a similar negative effect as a bias in favor of incremental pricing; that is, it may diminish the investment attractiveness on new pipeline infrastructure and delay or deter of the entry of new competitors in the market. Implicitly, the ACCC is recommending a similar approach as the one we advocate in this paper; that is, the elimination of any bias in favor of incremental or rolled-in pricing. *See* ACCC SUBMISSION, *supra* note 85.

investment attractiveness on new pipelines and the reliability of the pipeline system.^{97, 98} The author concludes that lower reliability will be observed in the form of “greater frequency and longer duration of price spikes.”⁹⁹ Swanson maintains that a bias in favor of incremental pricing will provoke high prices for the new transportation capacity and will amplify the risk of “unsold capacity or any cost overruns.”¹⁰⁰ As a consequence, the author concludes that the incremental pricing provisions of the 1999 Policy Statement will lead to more economic decisions but will make adding capacity more difficult:

[g]enerally, but not always, the rates for incremental capacity will be greater than the rates for existing capacity. Thus, the holders of new long-term capacity will be at a competitive disadvantage to holders of existing capacity, which is likely to discourage them from such new long-term contracts. Alternatively, the pipeline company could offer a lower rate via negotiated rates or discounting, but such reduces the profit of the investment.¹⁰¹

The author maintains that new pricing policy creates strong incentives to restrain pipeline capacity growth since “the incentive for a pipeline without long-term contracts to build new capacity is unclear.”¹⁰² A similar opinion is expressed by a recent paper—Petrash (2006)—which analyses the trend over the last twenty years from relatively long-term contracts for natural gas supply and transportation to relatively short-term contracts and the benefits and risks of this pattern.¹⁰³ The author concludes that longer-term contracts have benefits for consumers since they make it easier to construct needed infrastructure, result in lower capital costs, may serve to dampen gas price volatility and improve reliability of supply.¹⁰⁴ In the context of changing institutional conditions and gas liberalization trends in Europe, Neuhoff and Hirschhausen maintain that not only producers but also “[c]onsumers . . . benefit from long-term contract[s]

97. Swanson, *supra* note 94, at 295.

98. The Interstate Natural Gas Association of America (INGAA) Foundation issued a study in 2005 on the relationship between natural-gas supply and transportation contracts and the development of infrastructure. INTERSTATE NATURAL GAS ASSOCIATION OF AMERICA FOUNDATION, DISCUSSION OF EFFECTS OF LONG-TERM GAS COMMODITY AND TRANSPORTATION CONTRACTS ON THE DEVELOPMENT OF NORTH AMERICAN NATURAL GAS INFRASTRUCTURE (2005), available at http://www.ingaa.org/Documents/long_term_gas_contracts.pdf. The INGAA report highlights the fact that the current lack of long-term contracts makes the financing of new infrastructure more challenging since lenders for projects that lack long-term contracts are likely to increase the returns required for debt for such projects.

99. See Swanson, *supra* note 94, at 294. See also Order No. 637, *Regulation of Short-Term Natural Gas Transportation Services, and Regulation of Interstate Natural Gas Transportation Services*, F.E.R.C. STATS. & REGS ¶ 31,247 (2000), 65 Fed. Reg. 10,156 (2000) (to be codified at C.F.R. pts. 154, 161, 250, and 284) (showing Figures 6 and 7, examples of such price spikes for both Chicago and New York).

100. See Swanson, *supra* note 94, at 295.

101. *Id.* at 294.

102. Swanson, *supra* note 94, at 282, 296.

103. Jeffrey Petrash, *Long-Term Natural Gas Contracts: Dead, Dying, or Merely Resting?*, 27 ENERGY L.J. 545 (2006) [hereinafter Petrash].

104. However, Petrash also notes that long-term contracts may carry some risks: (i) natural gas utilities may hold more transportation capacity than it is really needed; (ii) consumers may end up paying above-market prices in out years; or (iii) natural gas utilities may commit to supply in excess of prospect needs. *Id.* at 581. For a more extensive discussion on the benefits and burdens of long-term natural gas contracts see generally *Id.* at 569-575.

[since] prices are lower under long-term contracting . . . than with pure spot sales.”¹⁰⁵

Swanson expresses additional concerns and concludes that pipelines having marketing affiliates do not have a clear incentive to add capacity to remove a bottleneck under the presence of price spikes. The author claims that “[w]hen there is a price spike in a consuming[] area[,] a pipeline’s marketing affiliate can earn extra profits if it has firm capacity across the constraint point and can thus charge the high market price for [the] gas.”¹⁰⁶ “[T]he marketing affiliate [allegedly] profits from a lack of capacity, and the integrated corporation lacks strong incentive to add capacity.”¹⁰⁷

What about a pipeline competitor? Pipeline bottlenecks that lead to a large price spread may enhance the incentive of potential pipeline competitors to add new pipeline capacity into the system. However, as Swanson recognizes the reduction in the price spread as a result of the new investment on pipeline capacity may limit the opportunities to fully recover the cost of the investment:

if a pipeline expands capacity or a new pipeline is built to exploit the large price spread, as soon as the new capacity comes on stream, supply and demand are better balanced and the price spread narrows. With a narrow price spread, the new pipeline capacity is unlikely to be profitable. Thus, investment that solves the capacity bottleneck problem is not rewarded with profit; it probably operates at a loss.¹⁰⁸

The author further concludes that:

Today, a pipeline will build new capacity where it believes that it can sell long-term transportation contracts or its marketing company can capture good profit from the new capacity. If the new capacity depresses price spreads and removes the marketing company profit, then the incentive for a pipeline without long-term contracts to build new capacity is unclear.¹⁰⁹

Both authors, Swanson and Picker maintain that the change in the pricing policy to the use of incremental pricing will create a push to consolidation and larger integrated networks and will reduce the potential risks in pipeline investments.¹¹⁰

105. K. Neuhoff and C. von Hirschhausen maintain that producers benefit from long-term contracts particularly when long-term demand is much more elastic than short-term demand. The intuition is: “without long-term contracts all gas will be sold in the short-term market and given the low short-term demand elasticity the oligopoly producers will charge high prices [and] will sell low quantities. With the opportunity to sell gas with long-term contracts producers already commit some of their output [and will thus] face smaller incentives to withhold output in the short-term market.” *Id.* As a result, short-term prices decrease. “The lower short-term price feeds back to the long-term market. As prices are lower more consumers [will potentially] choose gas as fuel and oligopoly producers serve a larger market. If the difference between short-term and long-term demand elasticity is large enough, then profits of oligopoly producers increase with long-term contracting.” K. NEUHOFF AND C. VON HIRSCHHAUSEN, UNIV. OF CAMBRIDGE, LONG-TERM VS. SHORT-TERM CONTRACTS; A EUROPEAN PERSPECTIVE ON NATURAL GAS (2005), available at <http://www.electricitypolicy.org.uk/pubs/wp/eprg0505.pdf>.

106. See Swanson, *supra* note 94, at 295.

107. *Id.*

108. See Swanson, *supra* note 94, at 295.

109. *Id.* at 296.

110. Swanson, *supra* note 94; and Picker *supra* note 71.

E. Conclusions

Analysis of the literature indicates that there is not a clear presumption in favor of either incremental pricing or rolled-in pricing methodology. Both proposed methods have their adherents but also their skeptics. The relevant literature on pricing of capacity pipeline expansions shows that the desirability of rolled-in or incremental pricing as the most efficient and equitable policy depends on the particular characteristics of each project and the particular ratemaking goals the author treats as paramount. The split seems to be based on whether the greater concern is proper incentive for competition at the pipeline level (by those supporting incremental pricing) or competition among customers (by those advocating rolled-in). There does appear to be a consensus that incremental pricing will have its intended result of discouraging investment. Whether that is a good or bad idea is disputed.

Not surprisingly, competition authorities in other jurisdictions (for instance, Australia) advocate, as we do in this paper, for a more discretionary approach that would eliminate bias and employ a fact-specific methodology on a case-by-case basis:

[c]learly there are advantages and disadvantages of both pricing approaches. Determining which approach is preferable involves assessing the balance of these advantages and disadvantages given the circumstances of a particular pipeline. Incremental pricing may be more appropriate for one pipeline, while rolled-in pricing is more appropriate for another. It may even be the case that the most appropriate pricing approach for expansions on a particular pipeline will change over time.¹¹¹

A case-by-case approach is also the jurisdictional policy with respect to the allocation of cost of investment on new intrastate gas infrastructure (transmission and storage) in several states in the United States such as California,¹¹² Illinois, Michigan, and New York. In these four states, the costs of investment on new intrastate gas infrastructure could either be rolled-in or incremental depending on individual circumstances.¹¹³

V. CRITIQUE OF A BIAS IN FAVOR OF INCREMENTAL PRICING

Analysis of the wording of the 1999 Policy Statement and a review of the certificate orders from the Commission generates certain confusion as to how the new policy has been articulated and implemented. The 1999 Policy Statement stated as a “threshold requirement” that “the pipeline must be prepared to financially support the project without relying on subsidization from its existing customers.”¹¹⁴ This statement, however, is accompanied by numerous exceptions and requirements to mitigate adverse impacts on existing customers from roll-in. From a logical point of view, applying a literal meaning of

111. ACCC SUBMISSION, *supra* note 85, at 98.

112. Order Instituting Rulemaking to Establish Policies and Rules to Ensure Reliable, Long-Term Supplies of Natural Gas to California (OIR), Docket No. R.04-01-025 (Jan. 22, 2004).

113. See ELENCHUS RESEARCH ASSOCIATES, NATURAL GAS INTERFACE REVIEW, SUMMARY OF GAS PRACTICES IN OTHER JURISDICTIONS (Nov. 21, 2005) (for a discussion on the jurisdictional policy with respect to the allocation of cost of investment on new intrastate gas infrastructure in California, Illinois, Michigan and New York).

114. 1999 FERC Policy Statement, *supra* note 1, at p. 61,746.

“threshold” that requires that this condition must always be met regardless of circumstances poses a paradox: in many cases one would almost never get to the exceptions and mitigation requirements because the project could never get past the “threshold” requiring incremental pricing. “Threshold” is therefore an unfortunate choice of terminology because the exceptions kick in only if one is past the threshold.

We take the “threshold requirement,” therefore to refer to an initial matter to be considered before proceeding to the next step. It makes no logical sense to apply this “threshold test” regardless of circumstances, such as to projects that generate no new customers and create benefits only to existing customers. The obvious solution, and the one often employed by the Commission in practice, is to apply the threshold literally only in cases where there are benefits enjoyed and costs incurred only by new customers.

Nevertheless, many commenters and industry participants have interpreted the 1999 Policy Statement as a generalized bias in favor of incremental pricing regardless of the circumstances, enforced by the “threshold test.” Although we believe this reading to be incorrect, we will analyze the economic implications of a generalized “bias in favor of incremental pricing.”

After examining the economic implications of a bias in favor of incremental pricing, we propose a more balanced approach that would eliminate bias and employ a fact-specific methodology that depended on the type of project. This balanced test is more consistent with sound economic policy and the actual implementation of the policy in many certificate proceedings, as discussed above.

We proceed now to identify a number of reasons to question the presumption that sound economic analysis supports a bias towards incremental pricing. The reasons may be summarized as follows.

A presumption in favor of incremental pricing is not necessarily consistent with economic efficiency

- A bias in favor of incremental pricing constitutes an inappropriate test for public convenience and necessity of expansion projects, thereby discouraging investment in hybrid projects.

Applying the “threshold requirement” literally, regardless of circumstances, does not constitute an appropriate test for public convenience and necessity. A bias in favor of incremental pricing is not necessarily consistent with economic efficiency, because it fails to consider that many projects create significant benefits that go beyond direct benefits to incremental customers. The appropriate test should consider all the costs and benefits of a project, not just the benefits that can be financed out of charges to new customers. Hybrid projects that confer benefits on both new and existing customers may never get constructed if the “threshold requirement” is taken literally, since it requires that only new customers pay for the benefits they receive.

- A bias in favor of incremental pricing may encourage inefficient subsidization from new customers to existing customers.

By failing to impose costs on existing customers, a bias in favor of incremental pricing may push too many costs of hybrid projects onto new users, while existing customers enjoy system benefits at no cost. A bias in favor of incremental pricing may therefore encourage inefficient subsidization from new customers to existing customers on hybrid projects or discourage the construction of such projects altogether.

- Implementation of the 1999 Policy Statement in certificate proceedings produces a risk-reward imbalance among industry participants that may discourage efficient investments in pipeline expansions.

In practice, the 1999 Policy Statement has been applied in a manner that confers the net benefit of expansion projects on pre-existing ratepayers if they are available via rolled-in pricing and imposes losses on pipeline investors when they are not through incremental pricing, with no compensation for the additional risk. This policy creates an asymmetric allocation of risk among existing customers and investors. Under such circumstances, pipeline management will be reluctant to risk funds for new investments. The net result of a generalized bias in favor of incremental pricing is clear: the burden of the risk of cost recovery under incremental pricing, the forced roll-in of successful projects to confer their benefits to existing customers, the possibility of retroactively switching of methods under “changed circumstances,” and the reluctance of pipeline customers to sign long-term contracts substantially increase the risks to pipelines from adding new capacity with no compensation for added risk. The effect will be to discourage efficient investment in pipeline expansion to prevent bottlenecks, assure system reliability, and to serve future demand additions.

A bias in favor of incremental pricing may not be equitable

- A bias in favor of incremental pricing may not be equitable since: (i) it may promote undue discrimination in favor of existing customers in circumstances where they incur the same incremental costs but pay lower rates; (ii) it may fail to achieve an equitable sharing of the costs and benefits of hybrid projects since existing customers may not pay for the benefits they enjoy; and (iii) it enhances cross subsidization from new customers to existing customers.

Sections A and B below contain a more extensive discussion of the efficiency and equity issues. Section C discusses issues of implementing the 1999 Policy Statement.

A. A Bias in Favor of Incremental Pricing is not Consistent with Economic Efficiency

1. Inappropriate Test for Public Convenience and Necessity of Expansion Projects

Construction of natural gas transportation facilities and related interstate services is subject to the receipt of a certificate of public convenience and necessity. It is not possible, therefore, to simply let market forces of supply and demand determine entry and investment decisions. However, the Commission's policies can be used to ensure that economically justified projects can go forward. This goal can be fostered by requiring a reasonable expectation that the benefits to pre-existing customers and to new customers that might be served as a result of the new services, and in some cases the more general public, exceed the projected costs. An appropriate rate design should then help protect against financing projects that fail to satisfy a cost/benefit test. Projects that fail such a test might still be appropriate if more general public interest can justify the project. By the same token, pipeline investors should benefit from such projects when ratepayers pay for the extra costs of the project because of the benefits they receive.

The 1999 Policy Statement sets out a "threshold requirement" in establishing the public convenience and necessity for existing pipelines proposing an expansion project.¹¹⁵ The threshold requirement established that pipelines must prove that the project can proceed without "subsidies" from their existing customers.¹¹⁶ According to the Commission, this will generally mean that expansions will be priced incrementally so that expansion shippers will have to pay the full costs of the project, without subsidy from the existing customers through rolled-in pricing.¹¹⁷

If this threshold requirement is interpreted literally to enforce a generalized bias in favor of incremental pricing, it would not constitute an appropriate general standard for establishing the public convenience and necessity for pipelines proposing an expansion project. The appropriate test for public convenience and necessity should consider not only the benefits that can be financed out of charges to new customers, but all the costs and benefits of a project. The Commission recognizes this problem when it discusses what it believes to be the weakness of the prior policy of relying chiefly on contracts to demonstrate demand for an expansion project:

[t]he reliance solely on long-term contracts to demonstrate demand does not test for all the public benefits that can be achieved by a proposed project. The public benefits may include such factors as the environmental advantages of gas over other fuels, lower fuel costs, access to new supply sources or the connection of new supply to the interstate grid, the elimination of pipeline facility constraints, better service from access to competitive transportation options, and the need for an

115. 1999 FERC Policy Statement, *supra* note 1.

116. *Id.*

117. 1999 FERC Policy Statement, *supra* note 1.

adequate pipeline infrastructure. The amount of capacity under contract is not a good indicator of all these benefits.¹¹⁸

A bias in favor of incremental pricing arising from literal application of the “threshold requirement” to all circumstances is not consistent with economic efficiency, because it fails to consider that many projects create significant benefits that go beyond direct benefits to incremental customers.

Commissioner Bailey’s dissent from the 1999 Policy Statement points to the problem. As the policy initially appeared to read, it is a “threshold requirement” that the project can proceed without subsidies from their existing customers, which “will usually mean that the project would be incrementally priced”¹¹⁹ As Commissioner Bailey noted, “There is too little recognition here that some types of construction projects are not designed solely for new markets or customers, that existing customers can benefit from some projects, and that rolled-in pricing may still be appropriate.”¹²⁰

Perhaps in response to this concern, the clarification of the 1999 Policy Statement later recognized the fact that some projects combine an expansion for new service with improvements for existing customers.¹²¹ Clearly, however, a policy biased in favor of incremental pricing would never account for such benefits if the “threshold question” is whether the project can proceed without “subsidies” from their existing customers, which will usually require that the project be incrementally priced. Such projects might never get past the threshold, if it is taken literally.¹²²

A “threshold requirement,” if it has any application, should apply only to projects that benefit new customers only. Rather than use the threshold test to create a bias towards projects that can only be financed incrementally, the appropriate test is to ensure that total benefits to existing customers, new customers, and the public justify the costs of the project. By failing to consider benefits to both new and existing customers, a bias in favor of incremental pricing regardless of circumstances sends the wrong price signals to the market. It leads to inefficient investment and contracting decisions that discourage investments in pipeline infrastructure that would also provide system benefits, grid efficiency, and reliability. Hybrid projects that confer benefits on both new and existing customers may never get constructed if the “threshold requirement” is taken literally, because it requires that only new customers pay for the benefits they receive.¹²³

The remedy for this possible confusion is relatively simple and is consistent with the 1999 Policy Statement. Cost recovery must follow benefit creation whenever it is possible (*i.e.*, the parties who cause the need for or receive the

118. *Id.* at p. 61,774.

119. 1999 FERC Policy Statement, *supra* note 1, at p. 61,745.

120. *Id.* at p. 61,751.

121. 1999 FERC Policy Statement, *supra* note 1.

122. *Id.* at p. 61,746. After applying the “threshold question” of whether the project can proceed without “subsidies” from the existing ratepayers, the 1999 Policy Statement discusses “balancing the benefits against the adverse effects,” including adverse effects on existing customers. This would seem to contemplate projects passing the threshold even if they incorporated a “subsidy” as the Commission uses the term. 1999 FERC Policy Statement, *supra* note 1.

123. *Id.* at p. 61,745.

benefit from new investment should pay the costs). The simplest case is one in which the investment grants benefits only to existing ratepayers. Here, the only real solution is to roll-in the costs. Likewise, a project that confers benefits only on new ratepayers could be financed by incremental treatment to hold existing ratepayers harmless. The in-between cases, where benefits are conferred on existing and new customers should be dealt with on a case-by-case approach to allocate the costs fairly.

Administrative and regulatory costs are also a factor. Depending on the facts, the two approaches can have significant differences with regard to the burdens they place on regulators and their staff, the potential for regulatory in-fighting and gaming, and encouragement of strategic behavior by the parties. Many other factors can enter in as a practical matter, and can be dealt with under an unbiased, flexible approach.

Correcting the possible confusion arising from a literal application of the “threshold requirement” can be readily achieved within the context of the 1999 Policy Statement. The Commission’s “Clarification Order,” makes clear that there are three types of expansion projects.¹²⁴ Further, footnote 12 of the original Order clearly indicates that “[p]rojects designed to improve existing service for existing customers . . .” should be granted rolled-in treatment.¹²⁵ The Commission needs only to clarify that the “threshold requirement,” if it implies a bias in favor of incremental pricing, should apply only to its first category of projects—expansion projects designated to serve only new customers. The balanced approach we recommend can thus be easily accommodated without revising the 1999 Policy Statement. Indeed, actual cases often reflect this more sensible approach as discussed above.

2. Inefficient Subsidization of New Customers

Interestingly, the term “subsidy” is not defined in the 1999 Policy Statement and it has not been consistently explained in actual certificate cases. This is especially relevant since there is no universally accepted definition of “subsidy.” The Energy Information Administration (EIA) defines a ‘subsidy’ as “a transfer of economic resources by the Government [or any public body] to the buyer or seller of a good or service that has the effect of reducing the price paid, increasing the price received, or reducing the cost of production of the good or service.”¹²⁶ According to the EIA, “[t]he net effect of such a subsidy is to stimulate the production or consumption of a commodity over what it would otherwise have been.”¹²⁷ A similar definition is given by the World Trade Organization (WTO) on the Agreement on Subsidies and Countervailing Measures (SCM).¹²⁸ According to the WTO, “[t]he definition [of a “subsidy”] contains three basic elements: (i) a financial contribution (ii) by a government or

124. 1999 FERC Policy Statement, *supra* note 1, at p. 61,392.

125. *Id.* at p. 61,746 n. 12.

126. ENERGY INFO. ADMIN., DEPT. OF ENERGY, REPORT # SR/OIAF/200-02, FEDERAL FINANCIAL INTERVENTIONS AND SUBSIDIES IN ENERGY MARKETS 1999: ENERGY TRANSFORMATION AND END USE (2000), available at <http://www.eia.doe.gov/oiaf/servicerpt/subsidy1/introd.html>.

127. *Id.*

128. Agreement on Subsidies and Countervailing Measures, WTO, available at http://www.wto.org/english/tratop_e/scm_e/subs_e.htm.

any public body within the territory of a Member (iii) which confers a benefit. All three of these elements must be satisfied in order for a subsidy to exist.”¹²⁹

It is clear that the definitions of ‘subsidy’ given by the EIA and WTO do not correspond to the one the Commission seems to have in mind. According to the 1999 Policy Statement, the Commission implicitly employs a definition of subsidy as a financial transfer from existing ratepayers to new consumers leading to overbuilding of capacity.¹³⁰ Consideration of the possibility that the subsidy could go the other way is less clear. Whereas the Commission recognizes the difficulty in defining a subsidy, it asserts that rolled-in expansion rates that are *less than or equal* to the rate paid by the existing customers is not considered a subsidy:

Witnesses at the technical conference acknowledged that defining subsidization is difficult without specific facts to review, and that fact was restated in several of the comments filed. We agree. But a basic observation may be useful here. For example, a rolled-in expansion rate that is less than or equal to the rate paid by the initial shippers would not be considered a subsidy.¹³¹

The Commission did, however, suggest that because of the likelihood of a single Alaskan pipeline project, it would consider alternatives to our current policy on how to define or quantify subsidization by current customers. Current policy primarily considers whether the expansion project will result in a rate higher than the existing transportation rate for existing customers. An alternative consideration or definition of subsidization could be whether the expansion rate is no higher than the actual initial rate or of an initial rate without built-in subsidies.¹³²

The Commission correctly clarifies that a rolled-in expansion rate that is higher than the original will not “necessarily” be considered a subsidy either: “whether a rolled-in expansion rate that is *higher than original rates* is a ‘subsidy’ is a question that necessarily would have to be reviewed in the context of a future NGA Section 7 filing.”¹³³

A review of the certificate cases indicates that a policy that was designed to prevent subsidies from existing ratepayers to new construction has materialized in practice as a policy in many cases requiring subsidies from new ratepayers to existing customers. The “threshold requirement,” if taken literally, regardless of circumstances, would impose the entire burden of hybrid project expansions on new customers, while pre-existing customers enjoy the benefits at no risk or cost. This is not in proper interpretation of the 1999 Policy Statement.¹³⁴

It is equally important to recognize that subsidies from new customers to existing ratepayers, imposed by a “bias” in favor of incremental pricing, would potentially discourage efficient investments in economically worthy projects. By failing to impose some burden of the costs on existing customers, a bias in favor of incremental pricing imposes subsidies from new customers to existing customers that might prove as harmful as the bias in favor of rolled-in

129. *Id.*

130. 1999 FERC Policy Statement, *supra* note 1, at p. 61,745.

131. Order No. 2005, *supra* note 68, at P 124.

132. Order No. 2005-A, *supra* note 68, at P 31,619.

133. Order No. 2005, *supra* note 68, at P 124.

134. 1999 FERC Policy Statement, *supra* note 1.

treatment.¹³⁵ Hybrid projects that confer benefits on both new and existing customers may never get constructed if there is a bias in favor of incremental pricing, since it requires that only new customers pay for the benefits they receive.

Some evidence supporting the conclusion that a bias in favor of incremental pricing may discourage investment in hybrid projects can be shown by counting up the number of certificate approvals since 1999 in each of the four categories of projects presented in section C above. This exercise demonstrates that the number of hybrid projects (third group category) requiring approval since 1999 is significantly lower than the number of certificate approvals required in the other different categories. The number under the first group category (projects conferring benefits only on new customers) and the second group category (projects designed to benefit only existing customers) accounts for twelve cases and twenty cases respectively. The number of cases under the third group category (projects granting benefits to both new and existing customers) is only eight. Of course, this data does not speak to what the number of hybrid projects would have been under the old policy, but clearly the first two categories outnumber hybrid projects. The number of cases under the fourth group category (projects providing benefits to new customers that were made possible because of earlier costly expansion projects) is seventeen.¹³⁶

3. Risk-Reward Imbalance Among Industry Participants

A review of the recent certificate proceedings suggests that implementation of the existing guidelines does not reflect a reasonable risk-reward balance among existing customers, new customers, and pipeline investors. Recent cases reflect a policy that allocates the risks of the investment on the pipeline and its new customers, and not on the existing customers when it states that “the project sponsor has to bear all the financial risk of the project; the risk can be shared with the new customers in preconstruction contracts, but it cannot be shifted to existing customers.”¹³⁷ In practice, some recent cases tend to encourage reliance on rolled-in pricing to finance projects merely because new capacity expansion reduces rates to existing customers. The Commission either approves or requires roll-in where it finds that rolling in the costs of successful projects (*i.e.*, revenues in excess of incremental costs) would result in a rate decrease for existing shippers. In addition, incremental pricing will be applied to projects where existing customer rates would otherwise increase, thereby requiring the new pipeline to bear the costs of any net revenue shortfalls. The Commission correctly recognizes that the most appropriate pricing approach for expansions on a particular pipeline may change over time. However, the “changed circumstances” doctrine employed by the Commission fails to comply with the “costs follow benefits” principle and by doing so imposes an unfair allocation of the risk of expansion projects among market participants.

135. Note that we have merely expanded the Commission’s apparent use of “subsidy” to describe any situation where one group of customers incurs costs to create benefits to another group.

136. The cases under the fourth group category are not mutually exclusive of the first three categories.

137. *1999 FERC Policy Statement*, *supra* note 1, at p. 61,746.

Pipeline investors therefore face additional risk for expansion projects, because rate design creates an asymmetric payoff for investors: it awards net revenue benefits on pre-existing ratepayers if they are available, and imposes losses on pipeline investors when they are not. The problem is that projects expected to be a success (revenues greater than costs) will be rolled into rates, and any excess revenues will benefit existing customers when this policy is implemented. In addition, the costs of unsuccessful projects (revenues less than costs) are imposed on investors with no compensation for the additional risk. Existing shippers get the best of both worlds, either rolled-in or incremental rates, depending on which produces the lowest rates for existing customers. The asymmetry of the policy, by failing to provide investors with an adequate compensation for this risk, adds to the possible disincentives to invest under a bias in favor of incremental pricing, potentially discouraging economically worthwhile projects.¹³⁸

One of the reasons for the 1999 Policy Statement was to provide more certainty about how the Commission will evaluate new construction projects that are proposed to meet growth in demand. However, the Commission stated that the suggested policy would be applied flexibly. For example, revenues from new transmission facilities may initially be in excess of incremental cost, but later the same facilities may incur costs beyond the incremental revenues. In such a circumstance, the Commission indicated that the pricing policy presumption in favor of rolled-in pricing under a case of inexpensive expansibility expansion will be reexamined, *i.e.*, the ratemaking methodology would switch back to incremental pricing, requiring the pipeline to bear the costs of any shortfall. In other words, what is rolled-in today may be incrementally priced tomorrow if the circumstances change sufficiently to conclude that the expansion investments no longer provide revenue benefits to existing customers. The possibility of switching methods under the “changed circumstances” doctrine further increases the risks to pipelines. Such switches provide a further disincentive to investment because revenues during the “good years” cannot be used to offset the losses during “bad years.”

In addition, as the Commission recognized in the 1999 Policy Statement, long-term contracts are no longer the industry norm, and thus there is more uncertainty about future sales. The net result of the recent certificate proceedings is clear: the burden of the risk of cost recovery under incremental pricing, the forced roll-in of successful projects to confer their benefit to existing customers, the possibility of retroactively switching methods under “changed circumstances” and the reluctance of pipeline customers to sign long-term contracts substantially increase the risks to pipelines from adding new capacity and discourage the efficient investment in projects with benefits to existing customers or public benefits.

138. See A.L. KOLBE, S.C. MYERS & W.B. TYE, REGULATORY RISK: ECONOMIC PRINCIPLES AND APPLICATIONS TO NATURAL GAS PIPELINES AND OTHER INDUSTRIES chs. 3, 4 (Michael A. Crew ed., Kluwer Academic Publishers 1993) (1993) (discussing more extensively asymmetric risk and the allowed rate of return necessary to compensate for this risk).

B. A Bias in Favor of Incremental Pricing May Not be Equitable

A bias in favor of incremental pricing may not be equitable since: (i) it may promote undue discrimination in favor of existing customers who impose the same incremental costs as new customers but pay lower rates; (ii) it fails to achieve an equitable sharing of the costs and benefits of new additions; and (iii) it enhances cross subsidization from new customers to existing customers.

Incremental pricing may create artificial distinctions among customers based on the order in which they arrive on the system. As Kahn has noted, “[a]s far as causal cost responsibility is concerned, all customers [new and pre-existing] are marginal Both should be forced to match those higher capacity costs against the satisfaction they derive from continuing to use the service.”¹³⁹ This is just one example where an incremental pricing policy might create inequitable distinctions among customers who incur the same incremental costs but pay different rates.

As discussed above, the “threshold requirement” test, if taken literally and applied indiscriminately, regardless of the type of project, means that benefits to existing ratepayers are not taken into account in evaluating the economic feasibility of the project. If the test is taken literally, any project that passes the threshold would confer any benefits on existing ratepayers at no risk or cost, while new customers would shoulder the entire burden of the expansion under a presumption in favor of incremental pricing. If this should happen, incremental pricing would fail to achieve an equitable sharing of the costs and benefits of new additions. A general bias in favor of incremental pricing may impose too many costs on new customers, while existing customers enjoy benefits of the expansion at zero cost. It is easy to imagine circumstances where such subsidization from new customers to existing customers is inequitable.

C. Circumstances Have Changed Since 1999

Important circumstances have changed since the implementation of the 1999 Policy Statement that affect the rolled-in vs. incremental debate. The main changes may be summarized as follows.

1. Increasing Concerns about Reliability and Security of the Energy Supply Infrastructure

Since the 1999 Policy Statement, the FERC has issued a number of notices of inquiry, rules, and Policy Statements on the matter of heightened concerns related to pipeline infrastructure and the issue of safeguarding “Critical Energy Infrastructure Information.” After the September 11, 2001, attacks, the Commission has recognized the critical importance of certain pipeline infrastructure and redundancy of the grid for security reasons. In its Statement of Policy in Docket No. PL01-6-000, *Extraordinary Expenditures Necessary to Safeguard National Energy Supplies*, September 14, 2001, the Commission assured companies it regulates that it would approve recovery of “prudently

139. 1 KAHN, *supra* note 9 (footnote omitted). Of course, there may be legitimate reasons for differing treatment based on order of arrival. The point is that incremental pricing necessarily enforces these differences in all circumstances, even when they may not be appropriate.

incurred costs necessary to further safeguard the reliability and security of our energy supply infrastructure”¹⁴⁰

In addition, the 2004 and 2005 hurricane seasons have had a devastating effect on the energy infrastructure and energy production in the Gulf of Mexico, one of the nation’s largest sources of gas (and oil) production. Hurricane Ivan in 2004 and Katrina and Rita in 2005 have demonstrated the extreme vulnerability and fragility of the U.S. energy network, causing destruction and substantial damage to offshore platforms and the natural gas deliverability network in the Gulf of Mexico region. Every segment of the production chain was affected: Production platforms were damaged or destroyed, offshore pipelines that transport the gas to shore were heavily impacted and onshore gas processing plants were permanently lost or forced temporarily to be shut-in. While a number of facilities have been brought back online, others required lengthy clean-up and restoration periods.¹⁴¹ As of early June, about eleven percent of the daily gas production in the Gulf was still shut down.¹⁴²

In order to assure reliable and secure gas utility service during this type of unfortunate and uncertain events, strong gas pipeline interconnections, diversification of natural gas supplies, liquefied natural gas (LNG) infrastructures and storage facilities are urgently needed. A failure or delay to do so will impose a heavy burden on the United States economy that will have to face profound and more frequent energy price spikes, price volatility, and service interruptions.¹⁴³ The effect of these price increases motivated by the hurricane

140. *Extraordinary Expenditures Necessary to Safeguard National Energy Supplies: Statement of Policy*, 96 FERC ¶ 61,299, at p. 62,129 (2001).

141. On January 19, 2006, the Minerals Management Service (MMS) released a study on the impact of hurricanes Katrina and Rita in the natural gas industry in the Gulf of Mexico region. “MMS estimates that 3,050 of the Gulf’s 4,000 platforms and 22,000 of the 33,000 miles of Gulf pipelines were in the direct path of either Hurricane Katrina or Hurricane Rita.” “Hurricane Katrina . . . destroyed 46 platforms . . . and damaged 20 others.” Press Release, MMS, Impact Assessment of Offshore Facilities from Hurricanes Katrina and Rita (Jan. 19, 2006), available at <http://www.gomr.mms.gov/homepg/whatsnew/newsreal/2006/060119.pdf>. About 100 damaged pipelines have been reported to MMS. “Hurricane Rita . . . destroyed 69 platforms and damaged 32 others.” *Id.* About 83 damaged pipelines have been reported to MMS. Included in that total were 28 large diameter pipelines (10” or larger). To date, only ten of these 28 have returned to service. “For a long-term projection, [MMS estimates that] approximately 400 million cubic feet of gas a day will probably not be restored to production prior the start of the 2006 hurricane season.” *Id.* As of June 1, 2006, shut-in gas production is 1.099 billion cubic feet per day. This shut-in gas production is equivalent to about 11 percent of the daily gas production in the Gulf of Mexico, which is currently approximately 10 billion cubic feet per day. The cumulative shut-in gas production for the period August 26, 2005, to June 1, 2006, is about 785 billion cubic feet, which is equivalent to 21.5 percent of the yearly production of gas in the Gulf of Mexico (approximately 3.65 trillion cubic feet). Press Release, MMS, Impact Assessment of Offshore Facilities from Hurricanes Katrina and Rita (Jan. 19, 2006), available at <http://www.mms.gov/ooc/press/2006/press0119.htm>.

142. Press Release, MMS, Hurricane Katrina / Rita Evacuation and Production Shut-In Statistics Report (June 1, 2006), available at <http://www.mms.gov/ooc/press/2006/press0605.htm>.

143. The impact of the 2004 and 2005 Hurricane season on natural gas prices is clear by analyzing the natural gas prices at the Henry Hub facility in Louisiana from summer 2004 to date. “Henry Hub prices increased [after Hurricane Ivan] from a July level of \$6/[million British thermal unit (MMBtu)] to a peak of \$8/MMBtu” in September 2004. By February 2005, natural gas prices had returned to the pre-Hurricane Ivan price levels about \$6/MMBtu. The impact of Katrina and Rita on natural gas prices is also remarkable. When Hurricane Katrina made landfall in late August 2005, prices increased by more than \$2/MMBtu to prices levels well above \$12/MMBtu. “When Hurricane Rita struck in late September, Henry Hub prices increased to above \$15/MMBtu” in October 2006. Since that time, prices have declined considerably to the \$6 to \$7/MMBtu range in May 2006. ENERGY FOUNDATION, ENERGY AND ENVIRONMENTAL ANALYSIS, INC., HURRICANE

season in the Gulf Coast Region is felt primarily in the eastern half of the U.S. This is due to the fact that the East Coast Region of the United States is heavily dependent on natural gas from the Gulf Coast region.¹⁴⁴ While natural gas infrastructure in the Gulf Coast was severely affected by the hurricanes, production in other areas of the country, such as the Rocky Mountain Region, Alaska, and Arctic Canada was not affected. Increased production and imports from these other producing areas (as well as LNG supplies) could have helped to offset the losses from the Gulf Coast and to alleviate its disturbance effects on energy prices (especially in the East Coast Region).¹⁴⁵ However there is inadequate pipeline take away capacity for moving gas from the supply regions in the West to the consuming markets in the East.

Abundant natural gas resources exist in the United States and worldwide to supply the market with natural gas at reasonable prices. Policies that encourage shippers to make responsible choices in contracting for natural gas supply and pipeline, storage, and LNG capacity are necessary to maintaining and developing sufficient natural gas infrastructure. The costs of projects necessary to increase reliability of service and to eliminate the reliance on critical links in the energy supply infrastructure potentially exposed to a terrorist attack or natural disasters may not be recoverable from incremental customers alone, nor should they be if all customers benefit from increased system reliability. Rolling in the costs may be the only feasible and equitable way of recovering the costs. The Commission seems to agree with this statement. In 2005, in an important decision to promote natural gas infrastructure in Alaska, it established a presumption in favor of rolled-in, as opposed to incremental, pricing of expansion facilities and concluded that rolled-in pricing may spur the investments needed to deliver gas to the lower forty-eight states and may reduce barriers to future exploration, development, and production of Alaska natural gas.¹⁴⁶

2. Risk of Infrastructure Failure in the Natural Gas Industry and Price Volatility

The natural gas industry is currently facing short-term and long-term interrelated concerns. These concerns are evidenced by energy price spikes, underinvestment in basic infrastructure (both storage and transmission) connecting supply sources with final demand, and insufficient gas supply. Each

DAMAGE TO NATURAL GAS INFRASTRUCTURE AND ITS EFFECT ON THE U.S. NATURAL GAS MARKET ES-2 (2005), available at http://www.ef.org/documents/hurricanereport_final.pdf.

144. See ENERGY FOUNDATION, ENERGY AND ENVIRONMENTAL ANALYSIS, INC., HURRICANE DAMAGE TO NATURAL GAS INFRASTRUCTURE AND ITS EFFECT ON THE U.S. NATURAL GAS MARKET ES-2 (2005), available at http://www.ef.org/documents/hurricanereport_final.pdf (discussing extensively the effects of Hurricane Katrina and Rita on the natural gas and oil infrastructure in the Gulf Coast Region and its effects on the U.S. energy markets); see generally ISO NEW ENGLAND, LEVITAN & ASSOCIATES, INC., POST KATRINA AND RITA OUTLOOK ON FUEL SUPPLY ADEQUACY AND BULK POWER SECURITY IN NEW ENGLAND (2005), available at http://www.iso-ne.com/pubs/spcl_rpts/2005/wntr_assess/post_hurricane_outlook.pdf (discussing the effects of the hurricanes on fossil fuel prices in New England).

145. See generally ISO NEW ENGLAND, LEVITAN & ASSOCIATES, INC., POST KATRINA AND RITA OUTLOOK ON FUEL SUPPLY ADEQUACY AND BULK POWER SECURITY IN NEW ENGLAND (2005), available at http://www.iso-ne.com/pubs/spcl_rpts/2005/wntr_assess/post_hurricane_outlook.pdf (discussing the effects of the hurricanes on fossil fuel prices in New England).

146. Order No. 2005, *supra* note 68.

of these three challenges is closely interrelated and must be properly addressed in order to avoid a significant risk of infrastructure failure in the natural gas industry. Recent energy price spikes have taught us that the price elasticity of energy is very steep in the short run. As a result, insufficient supply causes prices to consumers to rise very rapidly. Demand adjustments may be a short-term response to alleviate price spikes but do not constitute a long-term solution to the problem. Price spikes and price volatility motivated by inadequate infrastructure will continue to plague the industry.

Former Chairman Greenspan of the Federal Reserve has warned that the dramatic rise of natural gas prices and volatility, motivated in his opinion by a fundamental shift in natural gas supply/demand balance, can significantly affect the long-term path of the US economy. He noted that large and timely infrastructure investments are necessary to bring forth new supplies in order to avoid a risk of infrastructure failure in the natural gas industry. More specifically, it has been claimed that new frontier resources such as LNG, Arctic natural gas including pipeline natural gas from Alaska, and natural gas from Eastern Canada and the U.S. Atlantic Basin are of critical importance to meet growing demand.¹⁴⁷ Gold (2006) suggests that several companies are already planning to build natural gas pipelines to bring gas to the East Region over land from other parts of the country (Texas and Rocky Mountains) instead of investing on more economical LNG terminals in the East Coast.¹⁴⁸ The author suggests that stiff community opposition (from an environmental and permitting standpoint) is threatening most LNG terminal projects along the East Coast. In addition, at present, there are three potential projects being seriously considered for bringing Alaskan natural gas from the Alaskan North Slope to lower forty-eight state markets: (i) The Alaska Natural Gas Transportation System (ANGTS); (ii) the Trans-Alaska Gas System (TAGS), a LNG export project; and (iii) a third potential project involves a new pipeline to transport gas from the North Slope of Alaska to the Canadian border.¹⁴⁹

Whereas tight supply generates price spikes, underinvestment in basic infrastructure contributes to the problem. Even if there were a surplus of the natural gas (or LNG) supply, the market does not have the necessary pipeline capacity to transport it. Furthermore, even in the hypothetical situation in which there was adequate transmission infrastructure, the market lacks the capacity to

147. See generally ENERGY INFO. ADMIN., NATURAL GAS PRODUCTIVE CAPACITY FOR THE LOWER-48 STATES (2003), available at <http://tonto.eia.doe.gov/FTPROOT/natgas/ngcap2003.pdf>; CERE, CHALLENGES AND VOLATILITY LIE AHEAD FOR NORTH AMERICAN NATURAL GAS MARKETS (2003), available at <http://www.cera.com/news/details/1,1308,5858,00.html>; and Greg Schneider, *Natural Gas Imports Key, Greenspan Says*, WASH. POST, Apr. 28, 2004, available at <http://www.washingtonpost.com/ac2/wp-dyn/A48032-2004Apr27?language=printer&content=article>. See also Adelman, M.A., and P.W. MacAvoy (2004), "Allegations but not Evidence of Natural Gas Crisis," the article was originally published in the *Houston Chronicle* (available at http://mba.yale.edu/news_events/CMS/Articles/2600.shtml). In this article the authors seem to support this statement when they maintain that "gas supply in the next few years is going to be tight, given stagnation of investment in transmission and storage under pipeline regulations."

148. Robert Gold, *Politics & Economics: Energy Firms Turn to Pipelines, In Bet Gas Ports Won't Happen*, WALL ST. J., June 12, 2006.

149. For a more extensive discussion on the status of these three projects see generally FERC, REPORT TO CONGRESS ON PROGRESS MADE IN LICENSING AND CONSTRUCTING THE ALASKA NATURAL GAS PIPELINE (Feb. 1, 2006), available at <http://www.ferc.gov/legal/staff-reports/alaska-report.pdf>.

store it. The underlying shortages in basic infrastructure, both in terms of storage and transportation capacity, constitute the major constraints on both supply and demand growth and the key determinant of natural gas price volatility. The development of storage facilities is closely dependent upon the availability of interconnecting transportation. It is not enough to promote additional LNG supplies if storage and transportation facilities are inadequate.

Facility expansions in transportation and storage assets reduce price volatility by reducing price spikes for the entire gas market, not just the gas purchased by the new customers. Shortages in bottle-necked markets can cause price spikes across markets unless there is appropriate infrastructure. The existence of bottlenecks and operational constraints can create pricing differentials and amplify price spikes in the constrained zone. Investment in transmission infrastructure that helps to alleviate or eliminate these bottlenecks will force prices downward for both customers taking service on an incremental pipeline project and existing customers in the connected adjacent markets. In a similar manner, investment in storage facilities may dramatically reduce price volatility. Storage capacity helps the market to tackle supply and demand shocks and allows it to run surpluses and deficits that smooth the swing in prices. Any bias in favor of incremental pricing would likely frustrate this needed investment in storage and transmission facilities because it ignores the system benefits of increased supply reliability and reduced price spikes to existing customers that can arise from projects designated in part to serve new customers. A clear contradiction arises between the proposals to promote investments in facilities necessary to bring forth a new gas supply that improves the efficiency and security of gas transmission systems and the disincentives to investment that any bias in favor of incremental pricing is designed to create. The Commission recognizes this problem in its Order No. 2005-A when it states:

In adopting the presumption for rolled-in rate treatment, the Commission balanced rate predictability for initial shippers with the objective of reducing barriers to future exploration, development and production of Alaska natural gas. *The Commission was concerned that the prospect of high incremental transportation rates might increase risks to Alaskan producers and serve as a disincentive to future exploration and development of potentially valuable natural gas resources.*¹⁵⁰

More recently, on June 19, 2006, the Commission issued Order No. 678 amending its regulations to establish criteria for obtaining market-based rates for storage services.¹⁵¹ In this Order, the Commission adopted regulations implementing section 312 of the Energy Policy Act of 2005 (EPA 2005), which permits the Commission, in appropriate circumstances, to authorize storage providers (including LNG terminals) to charge market-based rates for service utilizing new capacity even when the storage providers cannot (or do not) demonstrate that they lack market power. Market-based rates are authorized if these rates are in the public interest and necessary to encourage the construction of the storage capacity in the area needing storage services, and where customers

150. Order No. 2005-A, *supra* note 68, at P 48 (emphasis added).

151. Order No. 678, *Rate Regulation of Certain Natural Gas Storage Facilities*, F.E.R.C. STATS. & REGS. ¶ 31,220 (2006), 71 Fed. Reg. 36,612 (2006) (to be codified at C.F.R. pt. 284).

are adequately protected.¹⁵² The purpose of the rule is to reduce natural gas price volatility and improve adequacy of gas supply during periods of peak demand by encouraging expansions of storage capacity while protecting customers from the exercise of market power.¹⁵³

3. Increasing Contracting Flexibility Granted Shippers under Order No. 636 and Order No. 637

The entire premise of a bias in favor of incremental pricing is that there exists a group of incremental customers who can be identified and required to pay all the expansion costs under incremental pricing. However, increased contractual flexibility which began with Order No. 636 and increased with Order No. 637 undermines the contractual restrictions on shippers by allowing them discretion to effectively modify the terms of their contracts.¹⁵⁴ The Commission's Order No. 636 and Order No. 637 have granted greater flexibility to shippers in the delivery of gas across a pipeline system by allowing firm holders of pipeline capacity to resell or release their capacity to other shippers and required pipelines to permit shippers to use flexible receipt and delivery points, the so-called "Flexible Point Rights and Segmentation."¹⁵⁵ Firm capacity holders have the right to subdivide their capacity rights into segments, so that over a particular point-to-point route, they can change receipt or delivery points and receive and deliver gas to any point within the firm capacity rights for which they pay. More flexibility provides shippers with further opportunities to avoid paying for higher cost new capacity by effectively modifying the terms of the contracts.¹⁵⁶

As mentioned above, long-term contracts are no longer the norm, and more emphasis is placed on the use of spot prices as a market signal for efficient investments. As a result, the unwillingness of customers to sign long term contracts and increasing flexibility increases the risks to pipelines from adding new capacity and erodes pipelines' incentives to commit to pay for incremental projects. The discouraging effect on investment that a bias in favor of incremental pricing may promote is therefore enhanced by the increasing contracting flexibility granted shippers under Order No. 636 and Order No. 637. Roll-in appears to be a more efficient tool to internalize the risks associated with high-capital intensive activities, such as building basic core infrastructure (storage and transmission), allocating costs to existing customers that benefit from increasing contracting flexibility, and encouraging the investment needed to prevent and alleviate shortages.¹⁵⁷

4. Market Deregulation and Unbundling

Before deregulation, natural gas was being purchased from pipelines at bundled prices by local distribution companies and, as a result, direct

152. *Id.*

153. Order No. 678, *supra* note 151, at P 9-10.

154. Order No. 636, *supra* note 4; Order No. 637, *supra* note 5.

155. *Id.*

156. Order No. 637, *supra* note 5, at p. 31,300.

157. *See generally* Order No. 636, *supra* note 4.

competition among pipeline customers may have been minimal. As unbundling became more widespread, much of the demand is among competing customers, such as gas-fired electricity generation. Under these new circumstances, incremental pricing may promote competition on unequal terms. Customers may simply be unable to compete on equal terms if they are paying different prices to transport gas. Rolling-in the costs may prove to be a feasible way to solve this problem.

VI. CONCLUSIONS

The natural gas industry is currently facing closely interrelated concerns. Short-term and long-term issues are mainly price volatility, lack of adequate basic infrastructure connecting supply sources with final demand, and tight supply. Whereas tight supply might motivate price spikes, underinvestment in basic infrastructure, both storage and transmission, contributes to the problem. These legitimate challenges need to be addressed to ensure that there is sufficient infrastructure in place in advance of when it is needed. The Commission's Order No. 636 and Order No. 637, by granting greater flexibility to shippers in the delivery of gas across a pipeline system, has blurred the difference between what customers under "old" contracts can do with their capacity rights and what a shipper under a "new" incremental contract can do.¹⁵⁸ By failing to impose costs on existing customers, any bias in favor of incremental pricing may push too many costs onto new users, while existing customers enjoy benefits at no cost. The result of allocating no costs to existing customers would discourage the development of needed basic infrastructure. The inability of the market to improve the core energy infrastructure will lead to more recurrent and severe crises, reinforce price volatility, and dramatically increase risk in the market.

Cost recovery should follow benefit creation whenever it is possible, without bias toward rolled-in or incremental pricing. The simplest case is one in which the investment grants benefits only to existing ratepayers. Here, the only real solution as the Commission recognizes, is to roll-in the costs. At the other extreme we have the projects that confer benefits only on new ratepayers. In principle, unless there are extenuating circumstances, brand-new pipeline projects or expansion projects that are not part of a mainline system and are undertaken only for new customers should be financed on an incremental basis. Finally, the in-between cases, where benefits are conferred on pre-existing and new customers, should be dealt with on a case-by-case approach to allocate the costs fairly. In actual gas markets characterized by underinvestment in basic core infrastructure, the huge cost of not having enough justifies implementation of an unbiased pricing policy.

Correcting any perceived general bias in favor of incremental pricing can be easily accomplished within the framework of the 1999 Policy Statement. To erase all doubt, the Commission should clarify that projects will be evaluated by an unbiased case-by-case approach that differs according to the three circumstances identified by the Commission in its Clarification Order. Any bias toward incremental pricing would apply only to projects that provide benefits only to new customers. As always, projects to create system benefits for existing

158. See generally Order No. 636, *supra* note 4; see also Order No. 637, *supra* note 5.

customers would be automatically rolled in. Hybrid projects would be financed by a fair allocation of the costs based on cost-causation and benefits received. The implementation of these policies could be improved by clarifying the implementation of some of the methodologies to eliminate uncertainties and possible errors, as discussed above. The recent EPLA 2005 has not provided any further clarification on the practical implementation of the threshold requirement for pipelines proposing new gas infrastructure projects.