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**VIA EMAIL**

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February 6, 2012

**FORTISBC ENERGY – AES OFFERING  
PRODUCTS AND SERVICES**

**EXHIBIT A2-28**

Mr. Shawn Hill  
Director, Regulatory Affairs  
FortisBC Energy Inc.  
16705 Fraser Highway  
Surrey, BC V4N 0E8

Dear Mr. Hill:

Re: An Inquiry into FortisBC Energy Inc.  
Project No. 3698635/Order G-95-11  
Regarding the Offering of Products and Services in  
Alternative Energy Solutions and Other New Initiatives

Commission staff submits the following document for the record in this proceeding:

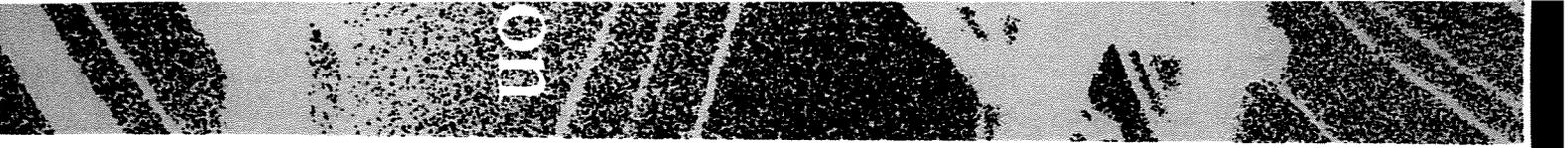
- The Economics of Regulation – Principles and Institutions, Alfred E. Kahn.

Yours truly,

Alanna Gillis

/yl  
Enclosure

cc: Registered Intervenors  
(FEI-AES-RI)



**The Economics of Regulation**  
*Principles and Institutions*

Volume I Economic Principles  
Volume II Institutional Issues

**Alfred E. Kahn**

The MIT Press  
Cambridge, Massachusetts  
London, England

lapse of open-market fuel prices in 1985 to 1987 had the same result: marginal costs far below average revenue requirements.

The economic principles, as we have observed, are symmetrical. The result in these altered circumstances should have been a reversal of the regulatory practices of the 1970s: receptivity to—indeed, active encouragement of—sales promotion, and a reversion to declining block rates or their equivalent, with a disproportionately large recovery of revenue requirements in the flat customer charge and initial blocks of consumption. One important political difference, of course, was that the requirements of economic efficiency were now far less attractive to emotional conservationists and consumers. (To an economist, of course, “conservation” is synonymous with economic efficiency, and is violated just as much by rates above as rates below marginal cost.)

The concept of two-part or multipart tariffs has proved attractive also as a possible means of reconciling the more efficient pricing of telephone services with the historic reasons for overcharging long-distance calling in order to hold down the basic residential charge—the desire to promote universality of service and generally held conceptions of distributional equity.<sup>36</sup> Telephone companies have expanded their offerings of a variety of two-part or multipart options—offering impecunious users who might otherwise drop off the system the option of service at a very low fixed monthly charge along with high charges per call (perhaps beyond some “basic” minimum number), while giving larger users with a considerably more elastic demand for usage—even threatening perhaps to bypass the telephone companies entirely and supply their own needs in order to escape inflated usage charges—the choice of a more fully compensatory flat charge along with usage charges closer to marginal costs.<sup>37</sup>

### The Anomalies and Distortions of Partial Deregulation

The experiences of the early 1980s with nuclear plants—traumatic for investors, companies, their customers, and utility commissions alike—contributed in various ways to the dissolution of the public utility institution. On the part of the companies, it bred a widespread disinclination to undertake new investments in capital-intensive facilities with long-lead construction times, for fear that it would expose them once again to major disallowances in the future on the basis of hindsight. On the part of regulators and legislators, it inspired a quest for alternative regulatory or deregulatory arrangements that would transfer a greater share of the investment risks from customers to investors. If these efforts were in some measure opportunistic—even unprincipled—they were motivated also by a suspicion that the companies would never have persevered in completing some of these plants had they not hoped for the usual cost-plus treatment, and by a recognition of the superior reward and incentive properties of competition.

And so the last decade has witnessed some genuine tendencies toward the admission of competition into public utility markets:

- Under PURPA, electric companies are required to purchase the output of “qualifying facilities”—independent small-scale hydro, solar, and in-

dustrial cogenerating facilities—at rates no lower than their own incremental costs, i.e., the costs they avoid by such purchases, and supply them power on nondiscriminatory terms.<sup>38</sup>

- Electric companies and natural gas producers and pipelines, finding themselves with excess capacity, have been offering bargain supplies to large industrial customers and wholesale distributors outside their franchise territories, and large customers, correspondingly, have been shopping around on an increasing scale—purchasing their gas at bargain prices directly in the field and their gas and electricity from suppliers outside their franchise territories, then presenting these supplies to the pipelines and local gas or electric companies for carriage to the point of consumption.
- The Federal Energy Regulatory Commission, in its historic order 436,<sup>39</sup> encourages gas transmission companies to hold themselves out as common carriers (instead of, as under the historic practice, carrying only gas that they purchase themselves and sell directly to industrial customers and local distributors) and proposes to permit distribution companies served by such pipelines to opt out of their contractual purchase obligations over a five year period.<sup>40</sup>
- Utility commissions have been considering setting rates for all power issuing from facilities henceforward constructed at incremental or avoided costs, and have in some states considered requiring electric distribution companies to acquire their future power through auctioning—putting their requirements out for competitive bidding.
- Independent enterprises have been proposing to construct generating facilities to supply power on a competitive basis to any and all nonaffiliated distribution companies.

All these steps, however, add up to something far short of full deregulation. The overwhelming majority of transactions in all of the three major historic public utilities continue to be regulated; and there is no consensus about how far along the deregulatory path it is desirable to go, or, indeed, whether the steps taken so far have been in the right direction.

The reasons for these uncertainties are rather obvious, and closely interrelated:

- The overwhelming majority of customers still have no easy alternative to receiving their local telephone, electric, and gas service from franchised monopolists.
- Regulators and the public alike have been unwilling to permit the realignment of their rate structures with marginal costs that unregulated competition would enforce, to the extent this would entail increases in the politically most sensitive charges—basic residential rates.

<sup>38</sup>Title II Sec. 201 and 210, 92 Stat. 3134–3135, 3144–3145.

<sup>39</sup>FERC Order No. 436, *Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol*, Final Rule and Statement of Policy—Dkt. No. RM85-1-000, 50 F.R. 42408, issued October 9, 1985.

<sup>40</sup>This decision was returned to the Commission by a Circuit Court of Appeals with instructions to give further consideration to the effect

on the long-term take-or-pay commitments of the pipeline companies of this proposed loosening of contractual obligations of their customers: US Court of the District of Columbia, Circuit Court of Appeals No. 85-1811, *Associated Gas Distributors v. Federal Energy Regulatory Commission*, decided June 23, 1987.

In any event, natural gas transmission lines in 1986 for the first time carried more gas for others than for their own account.

<sup>36</sup>Kahn and Shew, op. cit., pp. 241–242, 253–255.

<sup>37</sup>Gerald R. Faulhaber and John C. Panzar,

“Optimal Two Part Tariffs with Self-Selection,” Bell Laboratories Economic Discussion Paper No. 74, 1977.

- Some of the markets into which competition has actually entered—long-distance telephone service, local telephone service within large industrial and commercial establishments, the connections between large users and long-distance carriers, some of the competitive generation and acquisition of gas and electricity—may well be naturally monopolistic, with competition having been feasible only because of distortions in the regulated rates charged by the franchised incumbent suppliers—as we shall more fully explain below.<sup>41</sup>
- Finally, there is the pervasive concern that the regulated monopolists may use their control over bottleneck facilities—the local telephone networks, the electric and gas transmission and local distribution systems—to deny rivals a fair access to customers. This was the rationale for breaking up AT&T, separating the putatively monopolistic local service from the assumedly competitive or potentially competitive long-distance business. Closely associated have been concerns about the possibility of cross-subsidization: however much the revenue contributions have in fact flowed in the opposite direction, the possibility that the incumbents, regulated on the basis of their aggregate costs and revenues, might price their competitive services at unfairly low levels and recoup the resultant revenue deficiencies, with the permission of their regulators, from captive customers (volume I, pp. 171, 176; volume II, p. 54).

It would ordinarily not be seemly to quote from oneself, in an introduction to one's own book; that rule would presumably not apply, however, to a confession of partial error:

"The two principal institutions of social control in a private enterprise economy are competition and direct regulation. Rarely do we rely on either one of these exclusively. . . . The proper object of search in each instance is the best possible mixture of the two. . . ."

"The marriage (perhaps the better term would be miscegenation) of these two approaches in the public utility context is inevitably an uneasy one, but the almost universal conception is that the mixed marriage is better than none; that such competition as can be permitted, consistent with efficiency, can contribute to improved performance. . . ." (Volume II, pp. xiii, 115).

<sup>41</sup>For an explication of this possibility in the telephone case, see volume II, pp. 146–152: "If Competitors Want to Enter, How Natural Can Monopoly Be?" Economists—most of them originally associated in one way or other with AT&T—have since 1970 very thoroughly developed the conception that (1) long-run increasing returns within the relevant range are not a necessary condition of natural monopoly: an industry might be naturally monopolistic because of economies of scope or integration—i.e., the ability to produce a combination of services at lower cost than could separate suppliers—and (2) a natural monopoly springing from such economies might not be sustainable against selective, competitive entry. What these expositions have not convincingly demonstrated is the extent to which the conditions for nonsustainable natural monopolies are in fact

encountered in the real world, in the absence of regulatory limitations on the competitive responses of the incumbent; and they fall far short of justifying regulatory restrictions on entry, in order to preserve such otherwise non-sustainable natural monopolies. See, e.g., John C. Panzar and Robert D. Willig, "Free Entry and the Sustainability of Natural Monopoly," *Bell Journal of Economics* (Spring 1977), VIII: 1–22; Paul L. Joskow and Roger C. Noll, op. cit., pp. 14–17; David S. Evans and James J. Heckman, "Natural Monopoly," in David S. Evans, ed., *Breaking Up Bell*, New York: North-Holland, 1983, pp. 127–156; Sharkey, op. cit.; William G. Shepherd, "Competition and Sustainability," in Thomas G. Gies and Werner Sichel, eds., *Deregulation: Appraisal before the Fact*, Ann Arbor, MI: University of Michigan, 1982, pp. 13–34.

Recent experience clearly suggests, instead, that the mixed system may be the worst of both possible worlds.<sup>42</sup>

The problem is that continued regulation of the incumbent companies in the presence of freedom of entry of essentially unregulated competitors introduces a host of distortions. The most troublesome of the restraints on the former are the requirements that they

- set prices on the basis of average system-wide costs—which means in some markets above cost, and therefore subject to competitive invasion, and in others below, in a continuing effort to practice internal subsidization;
- sell both old and new services only under preapproved, posted tariffs, from which they are forbidden to depart except with permission of the regulatory agency, while their competitors are subject to no such constraints;
- price on the basis of original or book costs that often far exceed the short- and long-run marginal costs of both the regulated companies themselves and their unregulated rivals, because they contain a very large component of capital carrying charges on investments grossly overvalued on their books—whether because of inadequate past depreciation rates (volume I, pp. 117–121; volume II, pp. 146, 150) or because of the recent entry into rate base of generating stations whose costs far exceed the minimum cost of duplicating the service and/or that have saddled the companies with excess capacity, or—in the natural gas case—because the companies have incurred heavy contractual obligations to take or pay for very high cost supplies;
- price their competitive services on the basis of full cost distributions or allocations that have nothing to do with their marginal costs; and, finally,
- are obliged to incur the sunk costs of installing capacity necessary to fulfill their continuing obligation to serve, while customers in a position to seek supplies elsewhere are free to slough off the corresponding obligation to pay carrying charges on those investments, and to return and demand a resumption of service, without penalty, whenever that alternative is the more attractive one.

In these circumstances, we cannot know to what extent the competition that has sprung up is competition on the basis of efficiency, to what extent instead it has been made possible only by the continued artificial restrictions on the prices and activities of the regulated companies. A good deal of the transferring of patronage by big customers from one supplier to another and recourse to acquiring or generating supplies directly is inevitably impelled by comparisons of alternatives severely distorted by the sunk costs covered by regulated rates. Large customers have attempted to shift from one electric utility to another, in order to obtain lower rates, in situations in which the two belonged to the same power pool, and the respective marginal costs were therefore identical. Industrial users of gas have made purchases at competitive prices in the field and proffered the gas to a pipeline for carriage in order to stop buying from pipelines or local distribution companies with lower marginal costs but higher regulated rates, reflecting heavy sunk costs. Some industrial companies are undoubtedly generating their

<sup>42</sup>See A. E. Kahn, "The Uneasy Marriage of Regulation and Competition," *Telematics* (September 1984), p. 2, quoting a perceptive paper

by Herman Roseman and Irwin Stelzer suggesting a similar conclusion.

own power at costs lower than the *rates* but higher than the *incremental costs* of their utility company suppliers. And many of these shifts are economic from the standpoint of the customers only because of their ability to continue to depend upon the utility supplier for backup service (volume II, pp. 149, 229, 238–240) either in the event that the competitive alternatives fail or when such supplies are no longer available on more favorable terms.

In short, a great deal of the competition we are witnessing in the public utility industries merely represents an evasion of sunk costs—or, in effect, their transfer to captive customers, service to whom continues to be regulated on the traditional basis.<sup>43</sup> And there is, in these circumstances, no assurance that it is socially rational or conducive to economic efficiency.

While regulation in these circumstances—in particular, the setting of *floors* under the prices charged in competitive markets—is often motivated by a desire to protect captive customers from such unjustified discriminations, it also inevitably takes on the characteristic of protecting *competitors* from competition, to which tendency regulators are in any event prone (volume II, chapter 2). This tendency is directly related to the continuing uncertainties about whether some parts of these businesses may really be natural monopolies: so long as we limit the competitive responses of the incumbent companies, we have no way of knowing the answer to that question.<sup>44</sup>

This introduction is an inadequate vehicle for attempting to resolve these dilemmas. It would seem, however, that their resolution would have to be based on the following propositions:

1. The logic of opening any industry to free entry ultimately demands deregulation of the incumbent companies as well: wherever we decide we can safely rely on competition, we must, logically, abandon public utility-type regulation. The only way to find out where competition is feasible and where it is not, ultimately, is to permit it to take place and let the market tell us the answer; and the longer we postpone that determination the greater the cost to the public.
2. The only way of reconciling full deregulation of competitive markets with continued protection of captive customers is to find ways of breaking the link between the prices to the monopoly customers and the revenues and costs ascribed to the competitive operations. As long, instead, as the regulated prices continue to be set, directly or indirectly, on the basis of total company costs and revenues, or on the basis of some continuing process of allocation of costs between regulated and unregulated operations, there will always be the danger, in principle, of subsidization of the latter by the former. In those circumstances, conscientious regulators will not be able to refrain from setting floors under the competitive prices as well as ceilings over the putatively monopolistic ones.

How is that separation to be effected? So far as I can see, there is no possible method that will not be essentially pragmatic, indeed arbitrary. Some states, for example, are attempting thoroughly to separate the accounts of the two operations. While that is probably better than the present situation, it is not likely to suffice, not merely because it will inevitably involve all sorts of arbitrary allocations (that might be a small price to pay if it permitted the

<sup>43</sup>See, e.g., volume II, pp. 167–170.

<sup>44</sup>See John R. Haring, "Implications of Asymmetric Regulation for Competitive Policy Anal-

ysis," Federal Communications Commission, Office of Plans and Policy, Working Paper No. 14, 1984.

regulators thereafter to keep their hands entirely off the competitive pricing and investment decisions) but because, so long as the two sets of services continue to be provided for largely from common facilities, regulators will never be able to get out of the business of making those arbitrary allocations on a continuing basis—the very process that makes partial deregulation so unsatisfactory.

It seems likely, therefore, that we shall see increasing recourse, instead, to schemes that permit changes in the monopoly prices only in step with some external index—whether the Consumer Price Index or an index of cost of inputs to the industry—or freezes of one kind or another such as have recently been introduced in states like Vermont and New York. As an example of the former, the privatized British Telecommunications is constrained during its first five years (1984–1989) to raise the average of its prices no more than the retail price index minus three points, and no subcategory of prices—for example, the basic residential charge—more than the RPI plus two points.

None of these reservations about the effects of partial deregulation of the traditional public utilities is intended to minimize the positive contributions of competition. The foregoing suggestions for resolving the dilemmas and distortions of a mixed regime, indeed, implicitly assume that continued deregulation is the proper way to go, to the extent feasible.

The conclusion today, seventeen years later, is essentially the same as the conclusion of these two volumes: industries differ one from the other, and the optimal mix of institutional arrangements for any one of them cannot be decided on the basis of ideology alone. The "central institutional issue of public utility regulation" remains the one that I identified at that time—finding the best possible mix of inevitably imperfect regulation and inevitably imperfect competition.