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AUTOMATIC FUEL ADJUSTMENT CLAUSES: TIME FOR A HEARING

Marshall A. Leaffer*

Through automatic fuel adjustment clauses, utilities in most states are permitted automatically to pass through to customers any increase in fuel costs, thereby circumventing a general rate hearing before a public utilities commission where the validity of any such rate increase could be publicly examined. In this Article the author discusses the benefits and detriments of the automatic fuel adjustment clause, using the clause that existed in Ohio until quite recently as an example. He concludes that such a rate increase without a hearing can no longer be justified on the basis of uncontrollable fuel costs. Instead, he advocates adoption of a hearing contingency format, as recently proposed by Ohio's House Bill 21, to ensure that utilities are provided with adequate incentives for efficiency in the procurement and utilization of fuel. He concludes with a discussion of the Ohio provisions as enacted.

INTRODUCTION

THE GREATEST expense in the operation of an electric utility is the cost of fuel, and in recent years it has also been the most volatile.1 In 1973, utility fuel costs totaled $6.7 billion.2 By 1974, this figure had ballooned to $11.8 billion.3 New safety standards4 and wage settlements in the coal industry, activities of the OPEC cartel, and increased consumer demand all contributed to these

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1. Lindsay, Automatic Adjustment Clauses as a Means for Improving Regulations, in ADAPTING REGULATION TO SHORTAGES, CURTAILMENT, AND INFLATION 73 (J. O'Donnell ed. 1977).
2. Id.
3. Id. Corresponding to the increased costs to utilities, in 1974 consumers realized $9.6 billion in gas and electric rate increases. During 1974 consumers paid more than one and one-half times as much in utility rate increases as they did over the previous quarter century; an estimated two-thirds of these increases resulted from higher fuel costs passed through to consumers by fuel adjustment clauses. D. JONES & S. DOVELL, ELECTRIC AND GAS UTILITY RATE AND FUEL ADJUSTMENT CLAUSE INCREASES, 1974, prepared for the Subcommittee on Intergovernmental Relations and the Subcommittee on Reports, Accounting and Management of the Senate Committee on Government Operations, 94th Cong., 1st Sess. V (1975).

228
inflated costs.\footnote{G.R. Dreese Assoc., Inc., Factors Affecting the Abolishment of the Fuel Cost Adjustment Clause for Ohio Electric Utilities, pt. III (May 21, 1979) [hereinafter cited as Dreese].} Although the right of a public utility to recover its increased fuel costs through rate hikes to the consumer is beyond dispute,\footnote{FPC v. Hope Natural Gas Co., 320 U.S. 591 (1944). \textit{See} note 54 \textit{infra} and accompanying text. Utilities should be given the opportunity to earn a fair rate of return, defined as one which is just and reasonable, both to investors and to customers, and which is sufficient to enable the company to operate successfully, maintain its financial integrity, attract capital, and compensate investors for the risks assumed. 320 U.S. at 605; Lindsay, \textit{supra} note 1, at 72. For comprehensive treatments of public utility economics and rate making, see J. Bonbright, \textit{Principles of Public Utility Rates} (1961); P. Garfield & W. Lovejoy, \textit{Public Utility Economics} (1964); 2 A. Kahn, \textit{The Economics of Regulation: Principles and Institutions} (1971); C. Phillips, \textit{The Economics of Regulation} (1969).} controversy centers around the mechanism to be utilized for this recovery.

Ordinarily, reasonable costs incurred by a public utility are passed on to the consumer after a general rate hearing before a public service commission which establishes rates based on costs of production and return on investment. The goal of the hearing is to assure that prices charged are comparable to those of other businesses which operate under the same competitive conditions and experience similar risks.\footnote{J. Bonbright, \textit{supra} note 6, at 107.} The commission is faced with a difficult task: simulating market conditions for a regulated monopoly while preventing the misallocation of scarce resources.\footnote{Lindsay, \textit{supra} note 1, at 71.} If the price established is higher than the competitive market price, some consumers either will be unable to purchase the service, or will have less money to spend for other goods and services. If the price established is lower than the competitive market price, consumers will be encouraged to use a scarce resource which they would not ordinarily buy at the competitive price, causing a misallocation of resources.\footnote{\textit{Id.}}

During periods of relative price stability, this regulatory task is fairly easy to accomplish. The task is much harder, however, in times of rapid cost fluctuation. It is then that the time-consuming regulatory process, plagued by bureaucratic and administrative delay, creates situations in which rates may fluctuate between excessive and insufficient levels.\footnote{See Lynchburg Gas Co., 6 P.U.R.3d 33, 35–36, \textit{add'l opinion sub. nom.}, Virginia Elec. & Power Co., 7 P.U.R.3d 108 (Va. Div. of Pub. Util. State Corp. Comm'n 1954), \textit{aff'd sub nom.}, City of Norfolk v. Virginia Elec. & Power Co., 197 Va. 505, 90 S.E.2d 140 (1955); Lynchburg Gas Co. v. State Corp. Comm'n, 59 Va. Cir. Ct. 292 (1955).} In these times of rapidly increas-
ing fuel costs, it has become apparent that regulatory lag may cause serious cash flow problems for the utility, further decreasing its earnings, lowering the rate of return on its investments, and negatively affecting the price of its stock.\textsuperscript{11} These consequences, in turn, damage the company's credit rating, ultimately affecting its ability to raise necessary capital in the debt market.\textsuperscript{12} Lower bond ratings then lead to higher utility prices as the increased cost of long term debt filters through the company's financial structure, finally appearing on its rate schedule.\textsuperscript{13} This increase in the cost of capital has also forced some utilities to stop paying dividends which, again, is reflected in lower stock prices.\textsuperscript{14}

Hence, it becomes clear that without some method of eliminating regulatory lag and permitting a rapid fuel cost recovery, a utility will not be able to earn its fair rate of return, especially during inflationary periods.\textsuperscript{15} Moreover, this low rate of return, coupled with the restricted availability of capital in the bond market, will lead to the postponement or cancellation of needed construction projects, thus creating an era of rationing, extreme price increases, or simple unavailability.\textsuperscript{16}

The automatic fuel adjustment clause (FAC), which passes an electric utility's cost of fuel through to the consumer without a formal public hearing, appears to solve the cash flow dilemma resulting from regulatory lag and eliminates the public expense of lengthy administrative hearings.\textsuperscript{17} Yet, there are serious criticisms of a mechanism which permits the automatic pass-through of fuel costs and creates little incentive for utilities to minimize these costs. With coal prices likely to stabilize in the future, it is time to

\textsuperscript{11} Quigley, \textit{Comment}, in \textsc{Adapting Regulations to Shortages, Curtailment, and Inflation} 83-84 (J. O'Donnell ed. 1977).


\textsuperscript{14} Quigley, \textit{supra} note 11, at 84; Grigg, \textit{supra} note 12, at 14.

\textsuperscript{15} Lindsay, \textit{supra} note 1, at 73-75.


\textsuperscript{17} Trigg, \textit{supra} note 10.
reevaluate the automatic fuel adjustment clause for electric utilities.

The Ohio General Assembly has recently performed such an evaluation and has moved to abolish Ohio's automatic FAC and replace it with a hearing contingency format. The new format, although still considered a fuel adjustment clause, does not permit electric utilities to automatically pass through their increased fuel costs to their customers. Instead, a fuel cost adjustment hearing will take place semiannually, separate from the general rate hearing.

In discussing the automatic adjustment clause, this Article will focus particularly on Ohio's experience in switching from an automatic fuel adjustment clause to a hearing contingency format. The concerns which led the Ohio legislature to abandon the automatic FAC may well be typical of issues currently facing legislatures in the thirty-one other states which presently have them.

I. The Automatic Fuel Adjustment Clause

An automatic adjustment clause (AAC) is a provision in a utility company's rate schedule which allows the company to raise or lower rates in response to changes in one or more elements of cost without a full public rate hearing. The particular cost item is thus automatically reflected in rates charged to consumers. In economic terms, an AAC is a form of indexation designed to counter the effects of inflation. When cost increases are frequent and precipitous, the automatic adjustment clause adjusts rates quickly, thereby circumventing the time-consuming procedures associated with rate making. Sometimes called an escalator clause, the AAC does not, however, adjust rates upward only, but also adjusts them downward during periods of decreasing costs.

An automatic adjustment clause may be used as an economic and regulatory device for a wide range of cost items such as taxes, depreciation, and wages, as well as fuel. Adjustment clauses

20. Carver, supra note 12, at 663.
22. Trigg, supra note 10, at 966. In this sense, the term escalator clause is a misnomer. Past use by courts and commissions of the term, as opposed to "automatic" or "fuel adjustment clause," may well be due to the phraseology adopted by Trigg.
23. Id. at 982–89. An AAC may be categorized in one of two ways: It may be com-
based solely on the fuel costs of electric utilities are called fuel adjustment clauses,\textsuperscript{24} and are by far the most common, far-reaching, and controversial of the automatic adjustment clauses.\textsuperscript{25}

Although the FAC was not a matter of great controversy until the stakes became high in 1974,\textsuperscript{26} it is not a new phenomenon in the history of utility regulation.\textsuperscript{27} As early as 1917, several state

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\textsuperscript{25} To present some idea of the scope of the FAC, during 1978 the total fuel cost recovery under Ohio's FAC was $1,259,215,746. Total fuel cost recovery during 1978 for all Ohio ultimate consumers was $1,285,086,272. Public Utilities Commission of Ohio, Fuel Cost Recovery Summary and Increases Effected by FCA Calendar Year 1978 (June 20, 1979). The higher figure for total fuel cost recovery reflects the fact that certain fuel costs are not includable under the FAC. Consideration of these costs must be postponed until the general rate hearing. For a discussion of includable costs see notes 61–72 infra and accompanying text.

\textsuperscript{26} For example, in 1970 Ohio Edison's fuel costs were $41,159,000, which represented approximately 14.1% of its electric revenues and 40.1% of its operating and maintenance expenses. In 1974 fuel costs totaled $312,320,700, representing 42.9% of electric revenues and 60.2% of operating and maintenance expenses. \textit{Hearings Before the Energy and Public Utilities Commn.}, Ohio Senate, Mar. 21, 1979.

\textsuperscript{27} For the early history of adjustment clauses, see Foy, \textit{supra} note 24; Trigg, \textit{supra} note 10, at 964–68.
legislatures had added FAC’s to electric rate schedules to prevent financial disaster to utilities resulting from rapidly fluctuating coal prices. Nonetheless, FAC’s were generally limited to commercial and industrial users; it was not until recently that they were extended to residential users. Today, FAC’s are found in some form in forty-three states and the District of Columbia.

II. CRITICISM OF THE AUTOMATIC FUEL ADJUSTMENT CLAUSE

Automatic fuel adjustment clauses have engendered much criticism from consumer groups and academic circles. The critics are unpersuaded by the facile justification that FAC’s are nothing more than a mathematical rate adjustment formula for costs which are completely beyond the utility’s control. Rather, FAC’s are seen as giving a utility carte blanche to pass through any fuel cost it wishes, without the discipline of regulatory lag or administrative review. In sum, the FAC produces waste and inefficiency, encourages the use of fuel intensive technologies at the expense of other objectives, and hides managerial error.

28. Alton Gas and Elec. Co. 1917F P.U.R. 12 (Ill. Pub. Util. Comm’n 1917). The earliest FAC’s were provided in response to inflationary fuel costs during World War I. While a majority of the few cases reported upheld the clauses during this period, a few post-War cases rejected them. E.g., Plymouth Gas Light Co., 1919A P.U.R. 339 (Mass. Bd. of Gas & Elec. Light Comm’n 1918) (clauses too dramatic a departure from standard rate regulation practices); Rockford Elec. Co., 1917F P.U.R. 196 (Ill. Pub. Util. Comm’n 1917) (such delegation of authority would prevent the commission from knowing the actual price of coal). Cost increases during World War II brought a new round of demands from utilities for adjustment clauses, but there was no significant reliance on FAC’s until the sharp price increases of the 1970’s. Note, Due Process Restraints on the Use of Automatic Adjustment Clauses in Utility Rate Schedules, 18 Ariz. L. Rev. 453 (1976).

29. The utilities themselves apparently requested that the early clauses be applicable only to large customers; it was felt that otherwise the cost of billing would outweigh increased revenues. Trigg, supra note 10, at 974. However, with more efficient billing systems and rapidly increasing prices, over 70% of the states authorized application of these clauses to residential users by 1974. Sarikas, What is New in Adjustment Clauses, 95 Pub. Util. Fort. 32, 33 (June 19, 1975).

30. NARUC Study, supra note 24, at 6.

31. See notes 91–92 infra.

32. See Siegel, The Case Against Automatic Adjustment Clauses as a Means for Improving Regulation, in ADAPTING TO SHORTAGES, CURTAILMENTS, AND INFLATION 57 (J. O’Donnell ed. 1977); notes 1 & 2 supra.

33. One proponent suggests that FAC’s “may be viewed as a natural progression in the move from rate hearings, to rulemaking, to regulation by formula.” Schiffel, supra note 16, at 25. He notes, however, that use of FAC’s for costs which are controllable by the company and reasonably stable would be improper. Id. at 29.

34. See notes 47–51 infra and accompanying text.

35. These are among the most common criticisms of FAC’s. SUBCOMMITTEE OF STAFF EXPERTS ON ECONOMICS, NATIONAL ASSOCIATION OF REGULATORY UTILITY COM-
One basic problem of regulation is how to simulate competition and provide incentives for efficiency within the regulated industry, which is essentially insulated from competitive conditions, while preventing the industry from earning supra-competitive profits. The FAC, however, further insulates the utility from the competitive environment by permitting it to pass through all costs of fuel immediately. The FAC provides no incentive—and perhaps creates a disincentive—to bargain hard for a better fuel price or to find a lower priced supplier. Consequently, FAC's may result in avoidable price escalation for fuel as utilities are insulated from normal business risks and allowed to exercise what amounts to a cost plus privilege to buy expensive fuel without worrying about shrinking profits. This situation is further aggravated when the utility buys its fuel from a subsidiary or affiliated supplier; here, the utility may readily earn its supra-competitive profits by buying fuel from the nonregulated subsidiary at artificially high prices and then passing on these prices to the consumer through the FAC.

Because of the FAC's limited nature—the fact that only one aspect of cost is considered—the goals of the regulatory process may be harmed in two ways. First, because the FAC focuses only on the cost of fuel and ignores potentially offsetting savings from economies of scale, labor and plant productivity, improved technology, and the like, the consumer may be required to pay a higher rate based on an incomplete economic analysis. Hence, those utilities enjoying decreasing costs in other aspects of production experience unjustified increased earnings by taking advantage of the FAC's one input focus.

The second consequence of the limited nature of the automatic fuel adjustment clause is that it invites the utility to use excessive

missioners, automatic adjustment clauses revised, 120 cong. rec. 35954 (1974) [hereinafter cited as subcommittee report].
36. J. Bonbright, supra note 6, at 107.
37. subcommittee report, supra note 35.
38. Carver, supra note 12, at 681.
40. Id. at 837. Captive coal price markups and spot market purchases were chief abuses found in this area. subcommittee report, supra note 35. See notes 116–23 infra and accompanying text. In this setting both the utility and the affiliated supplier benefit from the FAC. Note, however, that OHIO ADMIN. CODE § 4901:11–11–03 (Banks-Baldwin 1978) was aimed at curbing such abuse.
41. Proponents of the FAC argue that compensating economies are unlikely because, other than in exceptional economic circumstances, prices generally move in the same direction during both inflationary or recessive periods. Trigg, supra note 10, at 971.
Automatic Fuel Adjustment Clauses

Fuel intensive technologies while sacrificing capital improvements which, expensive in the short run, might save fuel in the long run.\textsuperscript{42} In the absence of an FAC, a regulated firm may have a greater tendency to invest in these capital intensive technologies which inflate the rate base, thereby permitting higher rates and greater revenues.\textsuperscript{43} Although never conclusively measured, this tendency, known as the A-J effect, has been criticized as a distortion resulting from the regulatory process, and defended as socially desirable for providing greater capacity than would be expected from an unregulated monopoly.\textsuperscript{44} The FAC creates distortion in quite a different manner, however, by providing incentive to use excessive fuel intensive technologies—essentially rewarding undercapitalization. The more fuel intensive the production process—however wasteful—the less risk borne by shareholders since the FAC insulates the firm from any impact on profits which might result from fluctuating fuel costs.\textsuperscript{45} Clearly, in an age of limited resources, measures which retard the growth of capital intensive, fuel saving technologies are not to be encouraged.\textsuperscript{46}

As stated above, the basic aim of the FAC is to cause prices to reflect quickly those fluctuations in cost which are beyond a utility's control. The FAC attempts to avoid regulatory lag\textsuperscript{47} which may, particularly during periods of inflation, result in a lower rate

\textsuperscript{42} R. Schmalensee, supra note 19, at 110.

\textsuperscript{43} See Averch & Johnson, Behavior of the Firm Under Regulatory Constraint, 52 AM. ECON. REV. 1052 (1962). Averch and Johnson demonstrated that a profit maximizing utility would increase its plant investment above the most efficient level and use less of other inputs such as labor and fuel if it were permitted to earn a rate of return on investment exceeding the cost of capital. Id.

\textsuperscript{44} Id. at 1062; Spann, Rate of Return Regulation and Efficiency in Production: An Empirical Test of the Averch-Johnson Thesis, 5 BELL. J. ECON. 38 (1974). According to Kahn, the A-J effect is on the whole beneficial to society because new capital carries with it risk-taking technological innovation. 2 A. Kahn, supra note 6, at 49.

\textsuperscript{45} R. Schmalensee, supra note 19, at 110.

\textsuperscript{46} Schiffel notes that a management interest in increasing the rate base via new capital improvements serves as a countervailing force to long run use of less efficient fuel and equipment, but further notes that empirical studies should be made. Schiffel, supra note 16, at 27–28. From all indications, however, there is little reason to believe this offsetting force occurs. Moreover, many utilities in the 1970's may have experienced rates of return below the costs of capital. R. Schmalensee, supra note 19, at 110. Under such circumstances, the A-J effect operates in reverse, rewarding undercapitalization and adding to the input choice distortion likely to be produced by FAC's. Id.

\textsuperscript{47} Regulatory lag can be viewed as having both a substantive and a procedural aspect.

The substantive element is the conscious decision to make future rates turn on past costs. Inevitably, if next year's rates are based on last year's costs rather than on next year's costs, the rates will always be a year behind. Procedural delay, on
of return for the utility and which, if excessive, may jeopardize the utility's financial integrity.

Conversely, however, regulatory lag has been considered to create a positive force on many of the inherent weaknesses of the regulatory process.49

Freezing rates for the period of the lag imposes penalties for inefficiency, excessive conservatism, and wrong guesses, and offers rewards for their opposites: companies can for a time keep the higher profits they reap from a superior performance and have to suffer the losses from a poor one.50

Regulatory lag thus imposes certain competitive market disciplines on a regulated company which might otherwise tend to pad expenses at no cost or risk to its shareholders.51

Regulatory lag thus retains some of the managerial accountability the FAC would insulate. Although the basic aim of the FAC is to allow a utility to pass through only those inflationary costs which are beyond its control, the extent to which any costs are truly beyond a company's control is debatable.52 Without the presence of regulatory lag, which at least for a time imposes the financial risk of inefficiency on the company's shareholders, a fuel purchaser will feel little obligation to bargain competitively for better fuel prices. Although it is true that any regulated fuel purchaser may feel a lesser obligation to bargain competitively over costs, since even with the benefit of public hearings competitive prices are not easily determined and purchasing errors are not easily recognized, it can at least be said that regulatory lag encourages managerial diligence to the extent that the risk of inefficiency is transferred from the consumer (as is the case under the FAC) to the shareholders (as is the case at least temporarily during the regulatory lag period).53

48. See 2 A. Kahn, supra note 6, at 48; Trigg, supra note 10, at 964.
49. See 2 A. Kahn, supra note 6, at 48.
50. Id.
51. Id. Some experts have proposed conscious institutionalized regulatory lag to provide an even greater incentive for efficiency. See R. Schmalensee, supra note 19, at 119-21.
52. A critical difference between the proponents and the critics of the FAC is the degree to which they believe utilities have control over the relevant costs. 1975 PUCO Report, supra note 13, at 12-17.
53. In sum, the FAC encourages "X-inefficiency," described as the failure of management in protected situations to pursue production efficiency with much vigor. X-ineffi-
Apart from these substantial economic criticisms, it may also be argued that the automatic FAC is an abdication of the regulatory process in that it raises rates without a hearing, violating the consumer's due process rights under the fourteenth amendment. Except in certain limited circumstances, this due process argument is essentially groundless. Still, it is hard to escape the conclusion that the FAC is basically an abdication of regulatory responsibility and should be regarded as an aberration in the regulatory process. Consequently, its advocates should bear the burden to justify its permanent status.

III. THE OHIO FUEL ADJUSTMENT CLAUSE

An automatic fuel adjustment clause existed in Ohio until July 2, 1980, when it was replaced by a hearing contingency format. Ohio's experience with automatic fuel adjustment may provide a starting point for analyzing whether the automatic fuel adjustment

iciency is calculated by taking the excess of unnecessary cost as a percentage of actual cost. W. Shepherd, The Economics of Industrial Organization 33 (1979). See also, H. Leibenstein, Allocative Efficiency vs. X-inefficiency, 56 AM. ECON. REV. 392 (1966).

Little objective measurement, however, has been undertaken to evaluate the proposition that regulatory lag plays an important efficiency inducing role. One recent study suggests that X-inefficiency occurs only after fuel clauses are sufficiently liberalized. The study examined fuel prices in the Northeast, Gulf Coast, and coal belt regions and found X-inefficiency first appearing in 1971, the year fuel clauses were widely introduced and their customer coverage greatly extended. By holding output and all input prices constant, Gollop and Karlson estimated significant mean cost elasticity during this period for the regions. Gollop & Karlson, The Impact of the Fuel Adjustment Mechanism on Economic Efficiency, 60 REV. ECON. & STAT. 574, 583 (1978). One interesting finding of the study was that there appeared to be no observable X-inefficiency in the Gulf Coast region. The authors speculate that continual monitoring of the fuel clause which is common throughout the region has prevented inefficient behavior. Id.

54. Although the Supreme Court has never expressly ruled on the consumer's right to a hearing before rates are increased via an FAC, it has long been held that utilities are entitled to a reasonable rate of return. See FPC v. Hope Natural Gas Co., 320 U.S. 591 (1944); Smyth v. Ames, 169 U.S. 466 (1898); Note, Due Process and the Automatic Fuel Adjustment Clause, 52 IND. L.J. 637 (1977); Note, supra note 28. One federal district court has recently ruled that consumers are not entitled to any particular utility rate and have no vested rights in any fixed utility rates. Sellers v. Iowa Power and Light Co., 372 F. Supp. 1169 (S.D. Iowa 1974). At least two state supreme courts have held that increases charged in accordance with previously approved automatic FAC's did not violate the consumer's right to a prior hearing. The state agency's initial approval of the FAC formula was seen as satisfying the hearing requirement because the FAC was merely a fixed rule or mathematical formula under which future rates would be calculated. City of Norfolk v. Virginia Elec. and Power Co., 197 Va. 505, 90 S.E.2d 140 (1955); City of Chicago v. Illinois Commerce Comm'n, 13 Ill. 2d 607, 150 N.E.2d 776 (1958).

55. See Final Bill, supra note 18. The bill was signed by Governor Rhodes on April 2, 1980, and took effect ninety days later, on July 2, 1980. The Plain Dealer, Apr. 3, 1980, at 15-A, col. 1.
clause in general has outlived its usefulness. If a strong case can be made for the abolition of the FAC in Ohio, it is perhaps not too great a leap to conclude that the entire concept of an automatic FAC is essentially flawed and that it should, therefore, be abolished in other states as well. This becomes clear when comparison of Ohio's automatic FAC with those of other states reveals the Ohio clause to have been more restrictive than many in its recovery of fuel costs, as well as more ambitious in its attempts to encourage efficiency. Moreover, the Ohio clause required as rigorous and extensive a formal review procedure as may be found in any state, with central difficulty resulting from the almost impossible regulatory task of monitoring the operation of the clause.

A. Design and Structure

Prior to 1976, Ohio had no uniform mechanism for passing through increases in the cost of fuel. Pre-1976 FAC's were established independently by the Public Utilities Commission of Ohio (PUCO) and incorporated municipalities during formal rate setting proceedings. As a result, the FAC's for the eight investor-owned electric utilities in Ohio varied widely, often differing in such important aspects as fuel type specifications, base cost of fuel adjustment, time period for fuel cost adjustment, incremental cost increase allowed for adjustment, and procedures established for reporting to PUCO.

However, in December of 1975, the Ohio General Assembly passed Amended Substitute House Bill 579, which established more rigorous standards for PUCO review and monitoring of FAC's. The law also provided PUCO with the authority to promulgate rules to establish a uniform fuel adjustment clause that would bring all electric utilities in Ohio within its jurisdiction. On March 1, 1976, PUCO promulgated such a rule which, until recently, was codified as Chapter 4909-1-11 of the Ohio Adminis-

56. 1975 PUCO Report, supra note 13, app. A.
57. Id.
58. 1975 Ohio Laws (codified in scattered sections of OHIO REV. CODE ANN. tit. 49 (Page 1977)) (amended 1980). H.B. 579 was passed as an emergency measure following a study by a joint committee of the Ohio General Assembly chaired by State Senator Thomas Carney. Although the Carney Committee found no indication of improper activity by any Ohio utility, it found the need for a uniform, statewide FAC and a more comprehensive PUCO review mechanism. See Duffy, Electric Fuel Adjustment Review in Ohio, 12 AKRON L. REV. 465 (1979).
Automatic Fuel Adjustment Clauses

FAC's in all states are expressed as formulas designed to specify which fuel and related nonfuel costs may be recovered and Ohio was no exception. The formulas establish a method for


61. In addition, Ohio incorporated into its formulas its unique "Target Thermal Efficiency" incentive, which reduces costs recoverable under the FAC if the utility fails to meet a historic efficiency figure measured in terms of net kilowatt-hours generated per million British thermal units of fossil fuel consumed. Ohio Admin. Code § 4901:1-11-04 (Banks-Baldwin 1978) (repealed 1980). See notes 144-61 infra and accompanying text. Because target thermal efficiency has been criticized by both company and consumer groups, it remains an open question whether PUCO will keep target thermal efficiency or develop some new mode for encouraging the efficient use and procurement of fuel.

Ohio's FAC provisions were reduced to a formula by PUCO. See Public Utilities Commission of Ohio, Reference Manual for Rate Case Training Program 109-14 (Dec. 21, 22, 1978).

Allowable Fuel Rate

\[
\text{Rate} = \frac{100 \ C_A}{E_A} \times \frac{(C_I - C_{TEA})}{E_I} \times 100
\]

Allowable fuel rate equals allowable cost to energy ratio, cents per kilowatt-hour (¢/KWH). Id.

Includable Fuel Costs

\[
C_I = C_g + C_p + C_{ra} - C_{sfr} - C_{ucs}
\]

Includable fuel costs \((C_I)\) equals fuel costs associated with generation of power \((C_g)\), including fossil, nuclear, and hydroelectric fuel costs, plus purchased power costs \((C_p)\) plus reconciliation adjustments \((C_{ra})\), less sales for resale charges \((C_{sfr})\) and ultimate consumer sales charges \((C_{ucs})\), both of which represent nonjurisdictional sales. Id.

Includable Energy

\[
E_I = E_g + E_p - E_{sfr} - E_{ucs}
\]

Includable energy \((E_I)\) equals net system generation from fossil, nuclear, and hydroelectric plants measured at the generator terminals, less electric energy used by the plant, plus purchased energy \((E_p)\), less sales for resale \((E_{sfr})\) and ultimate consumer sales \((E_{ucs})\). Id.

Target Thermal Efficiency Adjustment

\[
C_{TEA} = (1-R) \ (C_I - C_p - C_n) \text{ when } R<1.0
\]

\[
C_{TEA} = 0 \text{ when } R>1.0
\]

The target thermal efficiency adjustment \((C_{TEA})\) is calculated using includable fuel costs \((C_I)\) except for the cost of purchased power \((C_p)\) and nuclear fuel costs \((C_n)\). Further, the adjustment does not apply when the utility exceeds its target \((R>1.0)\) and thus does not act as a reward to the company. It works only as a penalty for the utility's failure to meet its target \((R<1.0)\).

\[
R = \frac{\text{WATE}}{\text{TTE}}
\]

The target thermal efficiency ratio \((R)\) equals weighted average of thermal efficiencies over the prior twelve month period \((\text{WATE})\) divided by the target thermal efficiency \((\text{TTE})\).

\[
\text{WATE} = \frac{E_g(\text{prior 12 months})}{\text{mmBTU's consumed (prior 12 months)}}
\]
computation of these costs and outline a method for passing them through to the consumer. Cost of fuel is not the only aspect considered; adjustments for thermal efficiency and taxes are also included. Practically all forty-three states still using an FAC differ on the particular specifications included in the formula. These variations, often having an economic rationale, are determined by such factors as the differing utility operational procedures and environments, as well as differing commission policies.62

The nature of fuel costs included in the fuel adjustment charge is a principal source of variation among jurisdictions.63 Generally, fuel related costs are of three basic varieties: fuel cost itself, costs related to the purchase of fuel, and nonfuel costs. States vary, however, in the types of fuel covered by their FAC formulas. Many states, for example, exclude nuclear fuel and the cost of purchased energy; Ohio did not.64 State formulas also vary in the extent to which costs related to the purchase of fuel can be passed through to the consumer.65 These costs include transportation expenses, which were included in Ohio,66 as well as costs of fuel handling after delivery and waste disposal, which Ohio did not include.67 Other costs which might be passed through are nonfuel expenses such as state gross receipt, franchise, and property taxes.68 None of these taxes was includable under the Ohio statute.69 In Ohio, includable costs encom-

62. See NARUC Study, supra note 24, at 178-252.
63. Id. at 178-83.
64. Id. For a discussion of nuclear fuel and purchased energy under Ohio’s FAC, see notes 142-43 & 160-76 infra and accompanying text.
65. NARUC Study, supra note 24, at 178-252.
66. OHIO ADMIN. CODE § 4901:1-11-01(D) (Banks-Baldwin 1978) (repealed 1980). All “direct and justifiable consumed costs” were includable. Id. This specifically included “direct cost of fuel F.O.B. at the plant,” which was defined as “the sum of the delivery cost and the acquisition cost of the fuel consumed . . . .” Id. §§ 4901:1-11-01(D), -02(E). Delivery cost generally meant “the cost of delivery of fuel to be used for the generation of electricity . . . .” Id. § 4901:1-11-01(D). But, for a company-owned fuel supply, delivery cost was specifically excluded. Id. § 4901:1-11-02(C).
67. OHIO ADMIN. CODE § 4901:1-11-02(C) (Banks-Baldwin 1978) (repealed 1980). As a general proposition, the FAC is designed to pass through costs which are particularly volatile. Fuel handling expenses do not fluctuate to the same degree as, for example, fuel transportation costs and as a result are often excluded from FAC’s. NARUC Study, supra note 24, at 148.
68. NARUC Study, supra note 24, at 178-83.
passed direct cost of fuel F.O.B. at the plant plus fuel costs attributable to purchased power.\textsuperscript{70} On the other hand, fuel charges attributable to power generated for resale or for consumer sales outside of PUCO's jurisdiction were required to be deducted from includable fuel charges.\textsuperscript{71} Also excluded were such costs as gross receipt taxes, line losses, and fuel handling costs.\textsuperscript{72}

Under the Ohio FAC, all costs were historical in nature, that is, costs passed through represented either the actual cost or an estimate of actual cost with an adjustment as the cost information became available.\textsuperscript{73} PUCO also required each consumer's monthly statement to indicate conspicuously and clearly individual, total fuel charges.\textsuperscript{74}

B. Review and Monitoring

Perhaps even more important than design and structure of the FAC is the extent to which its application is reviewed and monitored by the relevant regulatory authority. Through review and monitoring procedures, the regulatory authority must decide whether the utilities have complied with a complicated statute and complex set of administrative rules. But even the best-intentioned commission, working under an ideal set of rules, is limited by its own resources. Commissions are chronically understaffed and turnover is often great, rendering ineffective the administrative task of overseeing the tangled web of fuel procurement and consumption practices. The automatic fuel adjustment clause compounds the difficulty of this task, largely because inadequate administrative resources are applied to a range of business transactions which have already occurred and must be reconstructed.


\textsuperscript{71} \textsc{Ohio Admin. Code} § 4901:1-11-01(D) (Banks-Baldwin 1978) (repealed 1980).

\textsuperscript{72} See id. §§ 4901:1-11-01 to -02. However, where power was purchased, line losses were includable provided the requirements of "economic dispatch" were met in the purchase of that power. These requirements were met if the total cost of power purchased was less than the cost at which the buyer could have generated power at the time of the purchase. \textit{Id.} § 4901:1-11-02(I).

\textsuperscript{73} See \textsc{Ohio Admin. Code} §§ 4901:1-11-01 to -02 (Banks-Baldwin 1978) (repealed 1980); Public Utilities Commission of Ohio, \textit{supra} note 61, at 108. Use of a future cost basis has several drawbacks: cost uncertainty can be a cover-up for rubberstamping by a commission, and the elimination of regulatory lag reduces incentives for efficiency. See text accompanying notes 36–40 \textit{supra}; Note, \textit{supra} note 28, at 458.

\textsuperscript{74} \textsc{Ohio Admin. Code} § 4901:1-11-08 (Banks-Baldwin 1978) (repealed 1980).

Under prior practice, a portion of the fuel charge had been included in the utilities' rate base.
from company-supplied data. A review of many state FAC's reveals a variety of monitoring and review practices designed to accomplish this almost impossible regulatory task.75

In general, FAC's may be categorized as automatic or nonautomatic, depending upon whether a formal hearing is held before or after a utility asks for modification of its adjustment surcharge. A fuel clause is automatic if the adjustment charge is passed through to the consumer without a formal hearing, which consists of notice and formal testimony, and results in an order issued by the commission. Nonautomatic hearing contingency clauses are found in thirteen states.76 This is the format that has recently been adopted in Ohio.77

In thirty-one states regulatory commissions permit an automatic FAC which enables the utility to pass on a fuel surcharge without a hearing.78 But even in these states, review procedures vary. Review of the FAC might range from routine checks of FAC calculations and spot checks of electric generating plants, to full scale audits of the utility's fuel purchases and full investigative hearings concerning the structure and design of the fuel adjustment clause.79

In comparison with other state statutes, the former Ohio provisions required fairly rigorous review procedures consisting of monthly reports,80 semi-annual hearings,81 and annual financial and performance audits to determine reasonable and proper costs.82 If the Commission decided that charges were improper, it had the authority to order an adjustment or refund, and did, in

75. See generally NARUC Study, supra note 24.
76. Id. at 38.
77. See Final Bill, supra note 18. For a discussion of this legislation and an earlier version of the bill, see notes 177–221 infra and accompanying text.


78. NARUC Study, supra note 24, at 38, 178–82.
79. Id. at 36–38.
81. Id. § 4905.301(B). At these hearings, each utility had the burden of proving that its fuel adjustment charges were fair, just, and reasonable. Id. § 4909.191.
82. Id. § 4905.66(A), (B)(2).
fact, exercise this authority.\textsuperscript{83}

Specifically, Ohio law required PUCO to be responsible for periodic monitoring of the fuel procurement practices of electric utilities.\textsuperscript{84} Accordingly, Ohio's eight investor-owned utilities submitted monthly reports of their fuel costs to PUCO.\textsuperscript{85} The Commission had thirty days to determine if acquisition and delivery costs had been erroneously reported.\textsuperscript{86} This was accomplished by verifying the mathematical accuracy of cost calculations passed through to consumers.\textsuperscript{87} In addition, electric companies were required to participate in semi-annual hearings to determine whether all fuel costs passed through during that period were reasonable and fair.\textsuperscript{88} One of these semi-annual public hearings took place within one month after completion of the electric utility's annual audit, to consider matters raised in the audit and the efficiency of the utility's fuel acquisition and utilization practices.\textsuperscript{89} The second of these hearings was held to assure constant review of the utility's fuel costs.\textsuperscript{90} The hearing process involved cross-examination of utility witnesses by representatives of various consumer organizations. The Office of Consumer’s Counsel (O.C.C.) participated extensively and, by statutory authority, represented the residential consumer before the Commission.\textsuperscript{91} The O.C.C. placed high priority on FAC hearing participation, and spoke vigorously.

\textsuperscript{83} Id. § 4909.191(D). This section provided for refunds due to errors in reporting, unreasonable fuel procurement practices, errors in estimation of kilowatt-hours sold, or to further Commission policies.

Reconciliation adjustment is an adjustment to the amount of money an electric company has passed through its fuel clause. If, after reviewing a company's fuel charge, the Commission determined that the company had not recovered enough money to cover its fuel costs, it ordered an adjustment in the company's favor. Conversely, if the Commission found that the company had recovered more than it should through the fuel clause, it ordered a refund to the consumer. \textit{See Ohio Admin. Code} § 4901:1-11-02(Q) (Banks-Baldwin 1978) (repealed 1980). In 1978, the Commission ordered $9,802,051 in refunds; for the years 1976-79, the Commission ordered refunds of $23,919,407. \textit{Public Utilities Commission of Ohio, Annual Summary of Consumer Refunds in the Form of Rate Reconciliation Adjustments Caused by the Existence of Fuel Cost Adjustment Rates Under Chapter 4901:1-11 Ohio Administrative Code 1976-79}, at 7, 8 (June 19, 1979).

\textsuperscript{84} \textit{Ohio Rev. Code Ann.} § 4905.66(B)(1), (2), § 4905.301(B) (Page 1977) (amended 1980).

\textsuperscript{85} Id. § 4905.66(A)(3).

\textsuperscript{86} Id. § 4905.66(B)(1), (E)(1).

\textsuperscript{87} Id. § 4905.66(E)(2).

\textsuperscript{88} Id. § 4909.191(B), (C).

\textsuperscript{89} \textit{Ohio Admin. Code} § 4901:1-11-06(D) (Banks-Baldwin 1978) (repealed 1980).

\textsuperscript{90} \textit{Id.}

for the abolition of Ohio's automatic fuel adjustment clause.\textsuperscript{92}

An additional monitoring and review procedure under Ohio's former FAC required utilities to submit yearly financial and performance audits of their fuel practices within one month of the filing of the annual report.\textsuperscript{93} The audit, unless otherwise ordered by the Commission, was permitted to be conducted by an independent auditing firm and costs were borne by the electric company.\textsuperscript{94} This audit, critical to the review procedure, was designed to determine if minimum prices had been paid for purchased fuel and whether long term fuel supplies would be obtainable at reasonable prices.\textsuperscript{95}

1. \textit{Independent Auditors}

It is easy to say that any audit program is only as reliable as the objectivity of the auditing firm. The audits by "independent" firms, however, have become controversial in the context of fuel adjustment clauses—both automatic and contingent. Their true independence was questioned in Ohio because electric companies paid for their own audits and selected auditors subject to Commission approval.\textsuperscript{96} Even more questionable, some companies had chosen their own financial auditor to perform the FAC audit.\textsuperscript{97} Because of doubt surrounding the objectivity of the audits, critics find it more than coincidental that an overwhelming number of these audit results recommended reconciliation adjustments for

\textsuperscript{92} The O.C.C. was created in 1976 as part of regulatory reform legislation following the Carney Committee report discussed at note 58 \textit{supra}. O.C.C. is unique in that it operates under a citizens governing board. Its several divisions have been involved in the major Ohio utility rate cases and have provided active representation in the FAC hearings. Since its creation, O.C.C. has been a party to most of the semi-annual hearings and several audit hearings before PUCO. Other activities include complaint cases, studies (including a statutorily-mandated study of PUCO), drafting of proposed legislation, and federal case intervention.


\textsuperscript{93} \textbf{OHIO REV. CODE ANN.} § 4905.66(B)(2) (Page 1977) (amended 1980); \textbf{OHIO ADMIN. CODE} § 4901:1-11-06(C) (Banks-Baldwin 1978) (repealed 1980).

\textsuperscript{94} \textbf{OHIO ADMIN. CODE} § 4901:1-11-06(C) (Banks-Baldwin 1978) (repealed 1980).

\textsuperscript{95} \textit{Id.}

\textsuperscript{96} Goodman, \textit{supra} note 92, at 237.

\textsuperscript{97} \textit{Id.}
the company.98

Since the 1975 changes in FAC review,99 PUCO has never conducted its own fuel audits.100 Consequently, in Dayton Power and Light,101 the question of sufficient independence arose in connection with $900,000 in payments by the utility to Arthur Andersen & Co. for work done by the firm. Testimony for Dayton Power and Light advocating rate increases was given by the same Arthur Andersen employee who performed the audit. Moreover, it was pointed out that Arthur Andersen maintained space in Dayton Power and Light’s office building and paid rent to the utility. The Commission ruled, however, that the independence of an auditor will be presumed and that the intervenors had not rebutted that presumption. The question still remains whether an auditing firm in that position should be allowed to repeatedly conduct these audits, as was the case under the Ohio FAC. Although the Ohio General Assembly had the opportunity to remedy the apparent lack of independence in the automatic FAC audit, when it was changed to a hearing contingency format, provisions strengthening the audit system were apparently rejected on the Senate floor.102

Even assuming the objectivity of the auditing firm, the result of any review procedure is thrown into doubt when the data to be measured is of questionable reliability or uniformity, as is, for example, the data derived from purchased power transactions. In addition, review procedures are effective only if the data investigated is subject to precise determination, as in the evaluation of coal procurement and contract shortfalls.

98. Touche Ross Study, supra note 92, at III–31. The study found that 90% of auditors’ findings recommended adjustments for the company.

According to Stevenson, independent evaluation of the utility’s managerial structure and operating procedures can provide useful identification of those areas susceptible to cost reduction. To assure objectivity, he argues that the group conducting the audit should be chosen by the Commission and report its findings directly. R. Stevenson, Productivity in the Private Electric Utility Industry 205 (1978). See also, Office of Consumers’ Counsel, Major Abuses of the Fuel Adjustment Clause (1979).

99. See notes 56–60 supra and accompanying text.

100. Goodman, supra note 92, at 231. Thirty-seven state commissions have their own staffs conduct fuel cost audits. Ohio—both under its FAC and under its new contingency format—is one of three jurisdictions that rely exclusively on outside consultants for the audit. NARUC Study, supra note 24, at 211–16.


2. Contract Monitoring and the Shortfall Problem

The Ohio Commission also came under attack for its monitoring of coal procurement practices; in particular, criticism focused on the frequent and serious contract shortfalls experienced by utilities in their coal supply contracts.\footnote{To obtain a reliable supply of coal at a minimum price, electric companies usually maintain a long term coal contract with a supplier unless the company owns its own captive sources. If a supplier fails to meet contract terms, the utility is forced to buy coal on the spot or open market. These spot market purchases are frequently more expensive than coal purchases made under a long term contract. The O.C.C. and other critics have faulted utility companies for laxity in enforcing their long term contracts.}{103} To obtain a reliable supply of coal at a minimum price, electric companies usually maintain a long term coal contract with a supplier unless the company owns its own captive sources. If a supplier fails to meet contract terms, the utility is forced to buy coal on the spot or open market. These spot market purchases are frequently more expensive than coal purchases made under a long term contract. The O.C.C. and other critics have faulted utility companies for laxity in enforcing their long term contracts.\footnote{Solution of this problem remains difficult, since most long-standing coal contracts have a force majeure provision—an exculpatory clause exonerating the coal company from liability for nonperformance of its contract in cases of governmental action, acts of war, or strikes. Many contract shortfalls are attributed to new federal environmental and safety legislation which has resulted in a decline in productivity.}{104} Because these situations fall within the force majeure provisions of the contracts, few compa-

\footnote{To obtain a reliable supply of coal at a minimum price, electric companies usually maintain a long term coal contract with a supplier unless the company owns its own captive sources. If a supplier fails to meet contract terms, the utility is forced to buy coal on the spot or open market. These spot market purchases are frequently more expensive than coal purchases made under a long term contract. The O.C.C. and other critics have faulted utility companies for laxity in enforcing their long term contracts.}{103} OHIO REV. CODE ANN. § 4905.69(D) (Page 1977) (amended 1980) provided that PUCO promulgate a rule excluding fuel costs arising from unfulfilled contracts with suppliers or unreasonable purchase arrangements between the utility and its captive subsidiary. Pursuant to that authority, OHIO ADMIN. CODE § 4901:1-11-07(A)(2) (Banks-Baldwin 1978) (repealed 1980) provided that PUCO should not permit recovery unless the utility made efforts to obtain contract performance or damages for nonperformance. See Toledo Edison, 76–531–EL–FAC 12 (PUCO, Jan. 26, 1977).

The importance of this problem is evident from the fact that 90% of Ohio electricity is produced by burning coal and that in 1977 approximately 68% of the coal delivered to Ohio utilities was obtained under long term contract. Battelle Columbus Laboratories, Final Report on Technical Economic Research on Ohio Electric Utility Coal Procurement and Prices to Touche, Ross & Co. for Office of Consumers' Counsel, I–3 (Oct. 30, 1978) [hereinafter cited as Battelle Report].

\footnote{O.C.C. often urged that PUCO should require utilities to enforce their contracts with suppliers and limit use of the spot market purchases. Related O.C.C. criticisms included the utilities' failures to enforce coal quality requirements, to spread idle mine costs of affiliated mines, and to use the spot market during default of the supplier where spot market prices were lower than the contract prices. See Office of Consumers’ Counsel, \textit{supra} note 98.}{104} O.C.C. often urged that PUCO should require utilities to enforce their contracts with suppliers and limit use of the spot market purchases. Related O.C.C. criticisms included the utilities' failures to enforce coal quality requirements, to spread idle mine costs of affiliated mines, and to use the spot market during default of the supplier where spot market prices were lower than the contract prices. See Office of Consumers’ Counsel, \textit{supra} note 98.

nies have brought suit against their coal suppliers. The Commission had found this failure to litigate reasonable in light of justifiable conduct by coal suppliers.

A contract shortfall in *Consumers' Counsel v. Public Utility Commission* illustrates the complicated nature of the problem. In this case, the O.C.C. alleged that the company had overcharged its customers by accepting inferior quality coal at the full contract price and passing the cost through to consumers—a violation of former section 4901:1-11-07(B)(2) of the Ohio Administrative Code. This section required the Commission to exclude from a utility's fuel charges any increased costs incurred as a result of supplier failure to fulfill contract obligations, unless the utility submitted satisfactory evidence to the Commission of its efforts to obtain performance or to recover damages for nonperformance. The court rejected the O.C.C.'s contention, stating that business realities may excuse the failure to bring suit. To a large extent, therefore, the utility may decide whether litigation is in its own best interest. Here, the record indicated that the coal came from one of the country's largest coal seams and that the company had an interest in maintaining an advantageous relationship with the supplier for future transactions. It also appeared that the parties entered into the agreement suspecting that the coal might fall

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106. Some companies, however, have pursued contract shortfalls in the courts. *E.g.*, Cincinnati Gas & Electric Co., No. 78–624–EL–FAC (Subfile A) 4 (PUCO, March 20, 1979).

107. The delicate business judgment that goes into coal contract negotiations is difficult to assess. For example, Cleveland Electric Illuminating's purchase of coal from one supplier on a long term contract was the most expensive coal it had purchased during the year. But, according to the Commission, this did not make the contract per se unreasonable. Other factors must be taken into account, such as the company's opportunity to purchase less expensive coal at that time on a contractual basis from another source, and whether the company should have entered into the contract when it did. Cleveland Elec. Illuminating Co., No. 77–373–EL–FAC 13 (PUCO, Dec. 7, 1977).

The Commission tries to assess a range of possible nonperformance justifications. For example, Ohio Edison experienced substantial quantity and quality shortfalls in its coal supply contracts. The supplier maintained that it had been excused by the *force majeure* provision in the contract. The company claimed that these shortfalls were the result of wildcat strikes, production shortages because of enforcement of health standards, and unloading problems. No reconciliation adjustment was ordered, even though the company had not brought litigation in two years. The Commission was satisfied that the company had made up losses on the spot market. Ohio Edison Co., No. 78–622–EL–FAC 13 (PUCO, Oct. 18, 1978).

108. 56 Ohio St. 2d 319, 384 N.E.2d 245 (1978).

109. *Id.* at 325, 384 N.E.2d at 249.

110. *OHIO ADMIN. CODE § 4901:1–11–07(B)(2) (Banks-Baldwin 1978) (repealed 1980).*

111. 56 Ohio St. 2d at 325, 384 N.E.2d at 249.

112. *Id.*
below specifications because of the uncertain effect of the Federal Coal Mine Health and Safety Act on mining operations. In addition, damages appeared to be minimal. Consequently, the court held that the utility acted reasonably in deciding not to sue its supplier, and that the Commission acted reasonably in allowing the utility to pass its costs through to the consumer.

The problem of contract shortfalls will no doubt continue to be acute. Indeed, Ohio's new contingency format has no provisions to deal with the problem. Most major environmental and health legislation has become an understood portion of coal cost and it does not appear that this situation will change. Thus, little can be accomplished through remedial legislation other than requiring the utility to justify its decision not to litigate the nonperformance of a contract.

3. Captive Coal Supplies

Another difficult issue in the area of coal use and procurement is the monitoring and review of captive coal mining transactions. A captive mining operation consists of utility ownership or financial interest in a coal mine. Captive mining operations are widespread in Ohio with twenty-six percent of coal burned in 1976 originating from captive mines, and with a predicted increase to thirty-six percent by 1985. Five of Ohio's seven major utilities are involved in these affiliated coal relationships.

The number of captive mining operations has increased because mine ownership assures a predictable source of fuel, continuity of supply, and consistent quality. Moreover, captive mines experience less risk than commercial producers because they have a built-in market for their coal. These nonprice advantages do not, however, guarantee that the consumer always benefits from captive coal sources. A report done for the O.C.C. indicates that

113. Id.
114. Id.
115. See Final Bill, supra note 18.
116. A captive mining operation generally consists of the following: utility ownership and operation of a coal mine and related facilities directly or through a wholly-owned subsidiary; utility ownership of reserves and possibly mining equipment with mining done by the independent mining company; or a financial interest in a coal company, such as a loan or a loan guarantee. Battelle Report, supra note 103, at III-3.
117. Id. at I-5 to -7.
118. Id. at III-15.
119. The advantages of using captive coal supplies are described in Ohio Power, No. 76-534-EL-FAC 7-12 (PUCO, April 4, 1977).
cost incentives for captive mines exist only so long as output remains constant at the mine's designated capacity.\textsuperscript{120} In times of production shortfall captive mines are able to charge a higher price, while the commercial mines are forced to keep prices constant and absorb a lower rate of return during that period.\textsuperscript{121}

In addition, there is speculation that the utilities have taken unfair advantage of their captive mine relationships, enabling them to earn supra-competitive profits and pass improper expenses through to the consumer without a rate hearing.\textsuperscript{122} For example, average captive coal prices in the American Electric Power system from 1973 to 1976 were higher than spot or long term contract prices for three of those four years and the quality of the coal was inferior for all four years.\textsuperscript{123} Although the use of captive coal may confer positive consumer benefits, the above data suggest the need for close monitoring of these transactions.

C. Incentives for Efficiency

One difficult problem facing regulatory authorities is the development of effective means for encouraging the protected monopoly to operate efficiently.\textsuperscript{124} The problem is particularly acute under the automatic FAC. Even its most ardent supporters agree

\textsuperscript{120} Battelle Report, supra note 103, at III-3 to -15.

\textsuperscript{121} Id.

\textsuperscript{122} Several possible abuses in the calculation of rate of return for captive mines were pointed out in the Battelle Report. One concern is the utilities' choice to expense capital expenditures, writing them off immediately, and amortizing them over a period of time. Neither PUCO nor the SEC has made definitive rulings on these practices. The second area of potential abuse concerns accruals. Advance payments for some items such as black lung and other worker benefits may be overestimated by the utilities, thereby giving themselves extra operating revenues for a short time. Id. at III-14.

\textsuperscript{123} Id. at III-21. These figures, however, may be the result of factors that are not readily apparent. For example, such price comparisons must take into account the date on which the contract was signed. Contract prices with independents may appear lower than affiliated coal prices because the price of nonaffiliated coal may include the price of coal purchased under favorable long term contracts signed when escalation clauses were not commonplace. They may also be misleading because these same contracts may have been signed before the advent of the Federal Coal Mine Health & Safety Act, which is generally acknowledged to have increased costs and decreased production. Ohio Power Co., No. 76-534-EL-FAC 10-11 (PUCO, April 4, 1977).

\textsuperscript{124} J. Bonbright, supra note 6, at 107, 121-23. Data confirms the existence of significant differences among privately-owned electric utilities in the level of static efficiency attained. Static efficiency involves the use of the best available technologies and the optimal mix of factor inputs to produce the lowest cost electricity. If static efficiency involves the best use of existing technologies, dynamic efficiency is concerned with how well the utility performs over time in actively attempting to reduce cost burden. R. Stevenson, supra note 98, at 198.
that efficiency incentives in the use and procurement of fuel must be provided.\textsuperscript{125} State commissions vary on what they consider the most effective incentives for efficiency and consequently tailor individual programs that vary widely from one region to another.\textsuperscript{126} Variables such as fuel mix, nature of electricity distributed, load characteristics, environmental requirements, and financial performance may account for differences in the incentive programs.\textsuperscript{127}

Generally, an incentive for efficiency is based on one or more of the following principles: (1) permitting a utility to recover less than the full amount of fuel costs; (2) penalizing a utility for failure to reach an operating goal and rewarding it for exceeding the goal; or (3) motivating a utility to purchase power when self-generation becomes more expensive. PUCO was given explicit authority to develop efficiency incentives under the automatic FAC and this authority continues under the new format.\textsuperscript{128}

1. **Incomplete Recovery**

Incomplete recovery may be effected by three means: fixing a percentage recovery, intentionally inducing a several-month delay for the pass-through of fuel expenses, or disallowing certain fuel expenses. Until the adoption of the hearing contingency format, Ohio had rejected the first two approaches for incomplete recovery and adopted the third.\textsuperscript{129}

Only two states, Michigan and South Dakota, have taken the

\textsuperscript{125} Lindsay, \textit{supra} note 1, at 75–78. At the time of Lindsay’s article there were no studies providing persuasive evidence of economic abuse or disadvantage resulting from FAC’s. He concludes, however, that if future evidence shows FAC’s to have reduced incentive to minimize costs, created bias in the selection of fuels used, or caused utilities to ignore savings from other economies, then incentives to correct these side effects would be warranted. \textit{Id.}

Trigg, considered to be the FAC’s most ardent supporter, discounts the economic objection that FAC’s reduce incentives to minimize cost, maintaining that moderate regulatory lag is usually present with FAC’s and the clauses can be designed to pass through somewhat less than the full cost increases paid by utilities. Trigg, \textit{supra} note 10, at 969.

\textsuperscript{126} NARUC Study, \textit{supra} note 24, at 139.

\textsuperscript{127} \textit{Id.} at 140.

\textsuperscript{128} \textit{Ohio Rev. Code Ann.} § 4905.69(D) (Page 1977) (amended 1980); Final Bill, \textit{supra} note 18, at § 4905.69(D). The specific incentive provisions of Ohio’s FAC included \textit{Ohio Admin. Code} §§ 4901:1–11–01(D), –02(C), (D) (Banks-Baldwin 1978) (repealed 1980) (limiting pass-throughs to justifiable “direct” costs); \textit{Id.} § 4901:1–11–02(I) (a purchased power provision allowing cost of power purchased and related nonfuel costs to be passed through to the extent that they do not exceed in-house operation); and \textit{Id.} §§ 4901:1–11–02(S), –04 (target thermal efficiency provision which penalizes the utility for inefficient operation).

\textsuperscript{129} See notes 66–68 \textit{supra} and accompanying text.
first approach, and both allow ninety percent of the cost of fuel to be recovered under the FAC.\textsuperscript{130} Ohio and other states have rejected incomplete expense recovery under the FAC, claiming it would undermine the basic goals of the FAC. Under fixed percentage recovery, in times of inflation, the company would still have cash flow problems, although to a lesser extent.\textsuperscript{131} Also, the two states using the incomplete percentage recovery do not require the utility to pass cost savings on to the consumer, but allow the company to keep them.\textsuperscript{132} Others have criticized incomplete recovery, claiming it permits construction of more expensive fuel plants or overly expensive transmission lines.\textsuperscript{133}

Imposition of an optimal time lag is another method of incomplete recovery. This amounts to the intentional creation of a regulatory lag which will presumably penalize inefficiency, particularly in times of fuel cost increase, because the utility must wait several months for the cost increases to be reflected in rates charged to customers. North Carolina and Florida have instituted, respectively, a two and three month lag.\textsuperscript{134} A lag may also occur through normal business processes. Under Ohio’s automatic FAC, where lag was not mandated by statute it took an electric company an average of ninety days to process the new fuel costs into the billing system. It is doubtful, however, that a ninety day de facto lag is long enough to encourage harder fuel price bargaining.\textsuperscript{135} Ohio’s new hearing contingency format adopts what amounts to a six month time lag.\textsuperscript{136}

Incomplete recovery can also be effected by disallowing certain fuel expense items.\textsuperscript{137} Commissions vary in the types of fuel

\begin{itemize}

\item These two states have chosen a 90\% recovery, but the economic rationale behind the percentage is unclear. In questioning the logic of percentage recovery under FAC’s, Carver concludes that it is merely a decision to place a share of the burden of fuel cost increases on the investors. Carver, \textit{supra} note 12, at 673.

\item \textsuperscript{131} Lindsay, \textit{supra} note 1, at 78. Lindsay would impose a percentage recovery only if there was evidence that utilities were failing to minimize cost. Otherwise, a percentage recovery would not be in the public interest. \textit{Id}.

\item \textsuperscript{132} \textit{NARUC Study, supra} note 24, at 145-46.

\item \textsuperscript{133} See R. Schmählensee, \textit{supra} note 19, at 111.

\item \textsuperscript{134} \textit{NARUC Study, supra} note 24, at 141.

\item \textsuperscript{135} \textit{Id.} at 191.

\item \textsuperscript{136} \textit{See} \textit{Final Bill, supra} note 18, at § 4905.301.

\item \textsuperscript{137} This type of incomplete recovery involves the exclusion of certain expenses from recovery under the FAC. This does not necessarily mean they are never recoverable, but
\end{itemize}
and fuel-related expenses allowed under automatic FAC's. Purchased power is a common exclusion, while in states having nuclear power plants nuclear expense is invariably includable in the FAC.\textsuperscript{138} A more critical question concerns which nonfuel expenses will be excluded. Ohio, for example, excluded gross receipts tax and fuel handling expenses, while including fuel transportation costs.\textsuperscript{139}

It has been noted that regulation has a general tendency to expand into nonregulated areas.\textsuperscript{140} Similarly, prior to the abolition of the automatic FAC, the trend in Ohio appeared to be toward inclusion of nonfuel expenses in the FAC formula. In doubtful cases, proposed costs were usually found eligible for pass-through under the FAC.\textsuperscript{141} Although the Ohio FAC was not intended to be all-inclusive, favoring incomplete recovery, the thrust of the Commission's opinions seemed to run in the opposite direction.

The inclusion of nuclear fuel in the Ohio FAC is an excellent example of how difficult it is to curtail the scope of the FAC. Although Ohio's FAC was entitled "Fossil Fuel Adjustment Clause,"\textsuperscript{142} the statute and the rules addressed fuel costs in general without specifying the types of fuel to be covered. Nevertheless, the Commission has ruled that a utility could pass acquisition and

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\textsuperscript{139} See notes 66-70 \textit{supra} and accompanying text.

\textsuperscript{140} 2 A. KAHN, \textit{supra} note 6, at 28-32.

\textsuperscript{141} For example, the Commission has ruled that oil terminal costs from the port of Lorain were includable fuel costs under the FAC. Ohio Edison Co., No. 77-373-EL-FAC 10-11 (PUCO, Oct. 26, 1977). The oil terminal costs were charges incurred by Ashland Oil, Ohio Edison's supplier, in operating, maintaining, and leasing oil storage terminals at the port of Lorain. Ohio Edison was to reimburse Ashland monthly, whether any fuel was delivered or not. The Commission concluded that such terminal costs were direct costs of fuel includable under the FAC and not merely storage expenses. \textit{Id}. The Commission has also ruled that deferred lease charges were part of the acquisition cost of nuclear fuel. Toledo Edison Co., No. 78-628-EL-FAC 11 (PUCO, Jan. 3, 1979).

One nonfuel cost the Commission did not allow was the pass-through of $223,000 for a railroad repair loan to repair track from a Cleveland Electric Illuminating (CEI) plant to a coal mine. Cleveland Elec. Illuminating Co., 78-626-EL-FAC 8-9 (PUCO, Dec. 6, 1978). The Commission ordered a reconciliation adjustment because the charge did not represent charges incurred directly in the transportation of fuel. \textit{Id}. Although the $223,000 may have facilitated the transportation of coal from mines to CEI's plant, it is difficult to associate it directly with the delivery of any particular fuel.

\textsuperscript{142} OHIO ADMIN. CODE § 4901:1-11 (Banks-Baldwin 1978) (repealed 1980).
delivery costs for nuclear fuel through the FAC.\textsuperscript{143}

2. \textit{Target Thermal Efficiency}

In addition to allowing only incomplete recovery, the Commission has encouraged efficiency by establishing criteria to measure a company's consumption of fuel and by rewarding those companies that achieve target efficiency.\textsuperscript{144} Not all companies convert energy, whether the fossil or nuclear fuel, into electricity with the same degree of efficiency. Thermal efficiency, or the rate by which fuel is converted into electricity, is measured by heat rate and expressed in BTU's required to generate a net kilowatt-hour of electricity.\textsuperscript{145} Heat rate, which varies from company to company, is determined by factors such as type and quality of the fuel burned, the company's load characteristics, environmental requirements, and the type of generating facilities used.\textsuperscript{146} Most state commissions have used some form of heat rate calculation to reward thermal efficiency.\textsuperscript{147} Under its automatic clause, Ohio took a unique approach using a variable heat rate and a target thermal measure of efficiency.\textsuperscript{148}

\textsuperscript{143} Application of the FAC to nuclear power requires special consideration because the cost of uranium is stable over long periods of time. The uranium itself constitutes only 31\% of the "nuclear fuel cycle," which involves conversion and reprocessing cycles extending over a number of years. Thus, power generation costs begin to resemble capital expenditures instead of fuel costs. Finally, although the fuel cost of nuclear power per kilowatt is lower than the cost of fossil fuel, capital costs to build the facility and bring it on line are higher. Thus, under an FAC, the high capital cost and lower fuel costs of nuclear plants may create incentives to build fossil fuel plants even though overall costs of operating nuclear plants are lower. 1975 PUCO Report, \textsuperscript{supra} note 13, at 1-2 app. D.

As of 1978, PUCO ruled that nuclear fuel and the associated nuclear fuel costs of burn-up fraction of mining, enrichment, milling, fabrication, delivery costs, and carrying costs not capitalized were includable. Office of the Consumers' Counsel of the State of Ohio, Ohio Fuel Adjustment Clause Update Review (April 1979), at II-1.

\textsuperscript{144} \textit{Ohio Admin. Code} § 4901:1-11-01(C)(1) (Banks-Baldwin 1978) (repealed 1980). For an explanation of the formula concerning target thermal efficiency, see note 61 \textsuperscript{supra}.

\textsuperscript{145} \textit{Id.} § 4901:1-11-01(C)(1).

\textsuperscript{146} NARUC Study, \textsuperscript{supra} note 24, at 153.

\textsuperscript{147} \textit{Id.} at 155.

\textsuperscript{148} \textit{Ohio Admin. Code} § 4901:1-11-01(A) (Banks-Baldwin 1978) (repealed 1980); NARUC Study, \textsuperscript{supra} note 24, at 156. Target thermal efficiency is one of several performance measurement techniques, ranging in scope and sophistication, which assess static or dynamic efficiency. TTE is called a partial factor productivity measure because only one factor or input is selected for measurement. Partial factor productivity measures are designed to produce a ratio with output as the numerator and input as the denominator. Both absolute ratio and change over time can be evaluated by this method.

Other performance measures are total factor productivity, rates of incidence of technological adoption and diffusion, econometric modeling, and management audits. R. Stevenson, \textsuperscript{supra} note 98, at 205.
PUCO constructed a formula\textsuperscript{149} which established a target thermal efficiency (TTE) for each electric utility, based on that utility's average monthly thermal efficiencies for a reference year.\textsuperscript{150} TTE was then compared to the utility's actual thermal efficiency, which was measured by the weighted average thermal efficiency (WATE) achieved during each month of the preceding year.\textsuperscript{151} Both the TTE and WATE were expressed in KWTT/mmBTU. Thus, actual thermal efficiency (WATE) divided by TTE represented an operating efficiency ratio for the entire system. If the actual thermal efficiency fell short of the target, that is, if the operating efficiency ratio was less than one, then allowable fuel costs were multiplied by that ratio and the company was penalized in that increased fuel costs resulting from reduced efficiency could not be passed on automatically to the consumer.\textsuperscript{152}

The TTE could be raised or lowered during the utility's semi-annual hearing, or at any time a requisite change in circumstances had occurred.\textsuperscript{153} The proper TTE was a frequently contested issue under Ohio's FAC, with the utilities invariably requesting a lower target. The TTE could be adjusted by the Commission on the basis of anticipated addition to or retirement of major generating facilities, or any other factors which it deemed proper.\textsuperscript{154} Typically, a company consistently falling short of its target would request a lower target on the basis of normal load growth requiring the use of less efficient peaking units. The Commission was often persuaded by these requests.\textsuperscript{155}

\textsuperscript{149} OHIO ADMIN. CODE §§ 4901:1-11-01(C)(1), -02(S) (Banks-Baldwin 1978) (repealed 1980).
\textsuperscript{150} Id. § 4901:1-11-02(S).
\textsuperscript{151} Id. § 4901:1-11-01(C)(2).
\textsuperscript{152} Id. § 4901:1-11-01(A). The penalties assessed for failure to meet the target have not been particularly severe. In 1977, the total includable fuel cost was $1.67 billion for the eight utilities and $4.2 million was lost in penalties. Touche Ross Study, supra note 92, at 1-14.
\textsuperscript{153} OHIO ADMIN. CODE § 4901:1-11-04(A) (Banks-Baldwin 1978) (repealed 1980). Requisite change in circumstances was defined as that which may preclude the utility from operating with "optimum dispatch." Id. § 4901:1-11-04(A)(3). In turn, "optimum dispatch" was defined as the operation of the electric utility's system at minimum overall costs. Id. § 4901:1-11-02(O).
\textsuperscript{154} Id. § 4901:1-11-02(S).
It is debatable whether TTE actually provided any incentive for efficient use and procurement of fuel. One basic weakness is that once the Commission establishes a target thermal efficiency for a utility, the company has no incentive to exceed its target. No benefits accrue to a company that exceeds its target, and in fact, a company may be penalized for so doing. Since target thermal efficiency is based on past performance, a consistently superior showing may induce PUCO to increase the target.\textsuperscript{156} Thus, if a company is comfortable with its target, knowing it can easily achieve a ratio of one, there is little incentive to increase efficiency. Consequently, as might be predicted, Ohio’s eight companies have generally performed at initially established levels of efficiency.\textsuperscript{157}

An additional important criticism of a target thermal efficiency approach is that TTE may not always be consistent with economic efficiency.\textsuperscript{158} In effect, TTE sometimes conflicts with the basic policy behind the FAC: that the electric companies shall attempt to operate at a minimum overall cost.\textsuperscript{159} For example, the exclusive use of expensive high grade coal will result in the most thermally efficient method for generating kilowatt hours (KWH). However, such a fuel mix may not provide the least costly method of generating electricity. Alternatively, the use of a mix of high, grade and low grade coal, although less thermally efficient, may reduce fuel costs to such a degree that the production of KWH is less costly. Moreover, system operations cannot always be conducted by using the most efficient generating units, particularly when demand increases. Thus, thermal efficiency and fuel cost should be considered together to achieve an overall minimum cost to generate electricity, even though this may result in less than maximum thermal efficiency.

Both company and consumer groups have joined in the criticism of TTE\textsuperscript{160} and these criticisms appear well founded. Unfor-


\textsuperscript{157} Touche Ross Study, \textit{supra} note 92, at IV-19 to -24.

\textsuperscript{158} \textit{Id.} at IV-6 to -7.

\textsuperscript{159} \textsc{Ohio Admin. Code} \S 4901:1-11-01(F) (Banks-Baldwin 1978) (repealed 1980).

\textsuperscript{160} \textit{See} Cleveland Elec. Illuminating Co., No. 77-377-EL-FAC 5 (PUCO, Dec. 7,
Unfortunately, neither the new hearing contingency format as adopted in Ohio nor earlier legislative proposals specifically provided for change in the system of inducing thermal efficiency.  

3. **The Economic Purchase of Power**

Inclusion of purchased power in the automatic FAC is often considered an incentive to use low-cost sources of power. Purchased power is a substitute for that power which a utility ordinarily would generate itself. Without the ability to purchase power from other companies, each utility would have to increase its generating capacity to become self-sufficient and capable of providing reliable service in times of peak demand and emergency. This excess capacity would be wasted, however, when demand is at normal levels. Hence, the ability to buy power from another utility at a price less than the cost of self-generation is clearly desirable from the standpoint of economic efficiency.

Although the Ohio statute did not specifically mention purchased power as includable under the FAC, the Commission adopted a purchased power provision under its rulemaking authority to encourage electric utilities to use the least expensive sources of power. An electric company was permitted to recover through the FAC fuel costs incurred in the generation of electricity by another company. These costs were referred to as

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1977); Ohio Edison Co., No. 76-533-EL-FAC 10 (PUCO, Nov. 22, 1976); Touche Ross Study, supra note 92, at IV-7 to -27.


162. NARUC Study, supra note 24, at 149-50.

163. Id. Approximately 35 states permit the inclusion of purchased power costs in the FAC. The scope of these costs vary from state to state. For example, some states, such as Kansas, do not include demand or capacity charges in the purchased power recovery. For an explanation of demand and capacity charges see note 165 infra. Missouri excludes the cost of purchased power generated with oil. NARUC Study, supra note 24, at 149. Purchased power fuel costs accounted for $251,548,391 or 15.06% of fuel costs passed through the Ohio FAC in 1977. Touche Ross Study, supra note 92, at III-6.


165. O H I O A D M I N . C O D E §§ 4901:1-11-01(D), (E), -02(I) (Banks-Baldwin 1978) (repealed 1980). The cost of purchased power included either a demand and energy charge or only an energy charge. The energy charge included allowable fuel and fuel-related costs. When a demand charge was included, the buyer was purchasing a certain amount of generating capacity from the seller for a specified period. By PUCO order, the total cost of purchased power, including demand charges, could be placed in the fuel adjustment charge if the cost was less than the cost of the buyer's own generation. Cleveland Elec. Illuminating Co., No. 76-166-EL-FAC 14-17 (PUCO, Aug. 11, 1976).
purchased power costs but actually represented only the costs of fuel used to generate that electricity. Accordingly, the selling company was required to exclude these same costs from its fuel adjustment so these costs were not included twice.\textsuperscript{166} Thus, the fuel costs were recovered from customers of the purchasing utility, that is, those for whom the electricity was generated, rather than from the customers of the selling utility. As a further means of encouraging economic efficiency, PUCO allowed the purchasing company to recover through the FAC the entire cost of purchased power rather than merely its fuel component if the purchasing company bought electricity on an "economic dispatch basis."\textsuperscript{167} This term included all purchases of energy by a utility at a total cost below the incremental cost of fuel needed to generate an equivalent amount of energy on its own system.\textsuperscript{168}

PUCO's authority to include purchased power by rule was contested in \textit{Consumers' Counsel v. Public Utility Commission}.\textsuperscript{169} The Office of Consumers' Counsel argued that it was not within PUCO's rulemaking authority to permit the pass-through of purchased power which is neither an acquisition nor a delivery cost.\textsuperscript{170}

The court rejected the O.C.C.'s position, stating that costs of fuel do not cease to exist on sales of power, but are incorporated in the price paid for electricity. The ultimate consumer, receiving the benefit of power purchases, is in effect charged for the acquisition and delivery costs of the generating company. Thus, the

\textsuperscript{166.} \textit{OHIO ADMIN. CODE} § 4901:1-11-01(D) (Banks-Baldwin 1978) (repealed 1980). In \textit{Ohio Power Co. v. Pub. Util. Comm'n}, 54 Ohio St. 2d 342, 376 N.E.2d 1337 (1978), the Commission had ordered the company to refund over $9.5 million, the amount of Ohio Power's fuel cost in generating power for resale. On appeal, the Ohio Supreme Court upheld the Commission's decision stating that the FAC could not be used as carte blanche authorization to pass through to tariff customers expenses other than fuel costs fairly attributable to the production of services to those customers. The court found that it was not unreasonable to order a refund on a finding that "fuel adjustment charges to its customers included fuel costs incurred to produce power sold to other utilities which had already been fully recovered under contracts under the jurisdiction of the Federal Power Commission." \textit{Id.} at 344-45, 376 N.E.2d at 1338-39.

\textsuperscript{167.} \textit{OHIO ADMIN. CODE} § 4901:1-11-02 (Banks-Baldwin 1978) (repealed 1980).
\textsuperscript{168.} \textit{Id.}
\textsuperscript{169.} 56 Ohio St. 2d 319, 384 N.E.2d 245 (1978).
\textsuperscript{170.} O.C.C. arguments were based on statutory construction. It contended that by implication PUCO was prohibited from promulgating its purchase power provisions due to the absence of the term purchase power cost in \textit{OHIO REV. CODE ANN.} § 4905.01(C), (E), (F), (Page 1977) (amended 1980), which defined delivery cost, acquisition cost, and fuel adjustment clause. Thus, § 4905.69(C), directing the Commission to establish incentives "in terms of costs" did not give it authority to provide for purchased power. 56 Ohio St. 2d at 322, 384 N.E.2d at 247.
court permitted the inclusion of these costs in the FAC of the purchasing utility, which through a chain of transactions was actually absorbing these costs.\textsuperscript{171}

As for the pass-through of the entire purchased power cost under conditions of economic dispatch, the court found it difficult to conceive of a method which would encourage a more efficient fuel procurement practice, especially when the net effect was to lower electricity costs to the consumer.\textsuperscript{172} The court found this inducement for efficiency clearly within the Commission's authority under the language of the statute.\textsuperscript{173}

There is little question that the economic purchase of power among utilities is beneficial to the ultimate consumer and should be encouraged within a proper administrative framework. Adequate administrative review here is essential since purchased power transactions involve millions of dollars in split-second decisions of utility dispatchers. In practice, administrative review of purchased power transactions has to be extremely difficult. The administrative review of monthly form ER-4, on which a utility reports its purchased power transactions, emphasizes the difficulty of monitoring the complicated set of transactions which comprise purchased power agreements.\textsuperscript{174} Supporting the pass-through of hundreds of millions of dollars, these ER-4 forms have a history of questionable uniformity, accuracy, and authenticity. For example, substantial discrepancies reflecting different volume and unit costs may appear on each company's ER-4 form.\textsuperscript{175} Moreover, the data on these forms, assuming uniformity, is almost impossible to verify because of difficulty in reconstructing old

\textsuperscript{171} Id. at 321-22, 384 N.E.2d at 247.
\textsuperscript{172} Id. at 323, 384 N.E.2d at 248.
\textsuperscript{173} Id. at 323-24, 384 N.E.2d at 248.
\textsuperscript{174} The use of the ER-4 forms has been attacked by the O.C.C. It maintains that utility company reporting on ER-4 forms has been unreliable, unintelligible, and incomplete, containing data which is neither uniform nor accurate. \textit{See}, \textit{e.g.}, Columbus & S. Ohio Elec. Co., No. 77-378-EL-FAC (Subfile A) 7-8 (PUCO, May 3, 1978).

During the hearing much time was spent trying to reconcile what appeared to be differences between reports of sales and purchases of power by CG&E. The discrepancies were resolved when it was determined that "wheeling" transactions were considered neither purchases nor sales by CG&E and hence the Company did not report them. Other surrounding utilities, notably DP&L and Ohio Power, do consider these transactions as purchases and sales and do report them to the Commission as either sales to or purchases from CG&E.

\textit{Id.} at 9. The company was ordered to revise its reports so the Commission could identify wheeling. \textit{Id.}
transactions to determine whether the purchaser made the proper decision. These problems are likely to continue under Ohio's new format.

IV. THE OHIO HEARING CONTINGENCY FORMAT

Presently, state legislatures and commissions appear to be moving away from the automatic FAC and toward adoption of a hearing contingency format. In addition, recent federal legislation has established guidelines for the restructuring of state FAC's. Following this trend, the Ohio General Assembly has recently passed House Bill 21, a measure which adopts the hearing contingency format in an effort to correct some of the defects in the prior system.

Current changes in the economy suggest that the time is right for states to consider discontinuation of FAC's in their present form. Studies indicate that the coal market has become more stable and that the rapid increases in coal prices of the early 1970's are now leveling off. Indications are that the price of coal over the next several years will only increase at the rate of inflation.

The utilities have nevertheless argued that bond ratings for Ohio utilities remain low and that the automatic FAC is still needed to bolster the financial health of the industry. But rising

176. For example, in its January, 1978, ER-4 form Cleveland Electric Illuminating reported buying 10,374,000 kilowatt hours as an emergency purchase from Toledo Edison. The corresponding ER-4 form for Toledo Edison reported selling only 77,000 kilowatt hours to CEI at a lower unit cost. Post-Hearing Brief of the Consumers' Counsel at 16, Cleveland Elec. Illuminating Co., No. 77-377-EL-FAC (Subfile A) (April 21, 1978).


177. See note 17 supra.


179. Final Bill, supra note 18.

180. Battelle Report, supra note 103, at IV-14 to -18; Dreese, supra note 5, at I-10. The Dreese study reported that, regardless of the trend in oil prices, fuel costs will probably stabilize over the next few years as they did following the 1973 United Mine Workers strike. It also noted that Ohio utilities have requested a rate increase approximately every 17½ months. With semiannual FAC hearings, the study concluded that there is some justification for combining general rate hearings with FAC hearings to avoid costly and duplicate hearings irrespective of the size and pattern of fuel costs. Id.


182. Hearings Before the Energy and Public Utilities Comm., Ohio Senate, Mar. 21,
fuel costs are not the only factors taken into account by rating agencies. Perhaps even more important are nonfinancial criteria such as company management, effective income tax rates, fuel sources, and fuel mix.\(^\text{183}\) It may well be that some Ohio utilities have a cash flow problem that is ameliorated by the FAC but is not directly caused by increases in the cost of fuel.\(^\text{184}\) Although Ohio utilities have been derated since 1973, slow economic growth in Ohio resulting in declining sales may be at least as responsible as the cost of fuel.\(^\text{185}\) To continue the use of the automatic FAC under these circumstances would be a perversion of the FAC’s purpose.

In 1975, when House Bill 579 was passed, regulatory lag in Ohio was considered to be among the longest in the country.\(^\text{186}\) Today, however, regulatory lag has been greatly reduced and is no longer a major reason for maintaining the automatic pass-through of fuel costs.\(^\text{187}\) Today there is greater public sensitivity to the automatic pass-through of fuel costs and, as this Article has suggested, it is now believed that the quick and easy recovery of fuel costs in Ohio often reduces a company’s incentive for efficient management and discourages hard bargaining in fuel contract negotiations.

The above concerns undoubtedly led the Ohio legislature to adopt an interim hearing contingency procedure to replace the automatic FAC. House Bill 21, as initially passed by the House,\(^\text{188}\) was a comprehensive reform of fuel cost adjustment procedures; the final bill\(^\text{189}\) is somewhat weaker and generally lessens the burdens on the electric companies.

House Bill 21 was signed into law by Governor Rhodes on April 2, 1980, and became effective ninety days later on July 2,
Although the Bill is a substantial reform of the formerly existing method of fuel cost adjustment, the companies will not be greatly burdened by its provisions.

The hearing contingency format eliminates the immediate pass-through of fuel costs. Although these costs will continue to be considered separately from the general rate hearing, semiannual review must occur before the company passes through any fuel costs appearing on a customer's bill. Of course, eliminating the automatic fuel cost adjustment by deferring recovery for six months will probably not reduce rates, but consumers' bills will become somewhat more predictable, varying semiannually rather than fluctuating monthly.

Unlike the automatic FAC, House Bill 21 defines the fuel component as the acquisition and delivery costs in the generation of electricity, including the allowable costs of purchased power, divided by the corresponding number of net kilowatt hours generated and purchased. Only average historical costs are considered, preventing companies from using projected fuel costs which would have led to systematic overstatement of future fuel costs. Clearly, the adoption of average historical costs is an essential feature of a hearing contingency FAC. Otherwise, use of projected costs would create a similar or perhaps even greater distortion than the automatic FAC.

Although the hearing contingency format is designed to review fuel costs semiannually, the Commission can expedite the hearing if changes in system operating characteristics or acquisition and delivery costs cause or may be reasonably anticipated to cause a twenty percent increase in the fuel component. This will permit a more frequent adjustment of the fuel component in times of uncontrollable inflation to maintain the financial integrity of the utilities. In addition, the twenty percent threshold will keep PU.CO insulated from frivolous demands for expedited hearings. This provision of House Bill 21, however, has a potential for abuse. For example, a company facing a fifteen percent jump in fuel costs—not enough to trigger the hearing—may waste another five

191. Final Bill, supra note 18.
192. See notes 177-89 supra and accompanying text.
193. Final Bill, supra note 18, at § 4905.301.
194. Id. § 4905.01(G).
195. Id. § 4905.01(H).
196. Final Bill, supra note 18, at § 4905.301.
percent or bargain less actively for fuel to meet the twenty percent requirements for an expedited hearing.

As a result of lobbying efforts by the electric companies, two important changes in the definition of acquisition costs appear in House Bill 21. Unlike the provisions under the automatic FAC, the cost of washing coal when required by law or rule is added to the definition of acquisition cost.\(^{197}\) These coal washing costs can now be considered every six months rather than postponed until the general rate hearing. Second, House Bill 21, unlike the previous statute, requires the Commission to determine if a captive coal price is reasonable when compared to similar transactions with independent mining operations.\(^{198}\) An earlier version of the Bill contained a provision unpopular with the electric companies, which specified that the contract term could not exceed ten percent of the average cost for contracts with independent mining operations.\(^{199}\) House Bill 21 has deleted the ten percent criterion, substituting a point of view more sympathetic to the companies. Accordingly, PUCO in addition to comparing the cost of the affiliated transaction with nonaffiliated transactions must also consider trends in the mining industry, long-term dependability, and the reliable energy supply interests of its customers.\(^{200}\) Thus, the companies have persuasively argued that dependability and reliability of coal supply are just as important as contract price in determining whether a captive coal transaction is reasonable. This standard, comprehensible and reasonable in theory, will be difficult to administer in practice because of the number of variables which do not lend themselves to easy measurement. The better approach, as suggested by the O.C.C., would be to place a ceiling on the costs of captive coal that could be charged to consumers under the interim adjustment with any other costs considered at the general rate hearing.\(^{201}\)

Unlike the system under the automatic FAC, purchased power is specifically allowed by House Bill 21.\(^{202}\) The new Bill codifies the principle of economic efficiency as adopted by PUCO and upheld by the courts.\(^{203}\) The Bill provides that no costs of purchased

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197. \textit{Id.} § 4905.01(F)(2).
198. \textit{Id.} § 4905.01(F).
199. \textit{House Version, supra} note 161, at § 4905.01(F).
200. \textit{Final Bill, supra} note 18, at § 4905.01(F)(1).
202. \textit{Final Bill, supra} note 18, at § 4909.159(B).
203. \textit{See} notes 162–76 \textit{supra} and accompanying text.
power exceeding acquisition and delivery costs of the fuel used in its generation be allowed, unless the cost per kilowatt hours of purchased power did not exceed the reasonably anticipated incremental cost of self-generated power which could have been substituted for the purchased power.204 Other charges, such as nonmonetary exchanges, are specifically excluded.205 In short, the Bill has codified the current position on purchased power which has generated much controversy and will continue to do so.

The question remains whether the semiannual hearing contingency format under House Bill 21 will lead to better administration of the FAC. As for basic monitoring and review procedures, House Bill 21 retains most of the safeguards found under the automatic FAC. Electric companies are required to submit all pertinent data thirty days prior to the semiannual hearing206 and the burden is on the company throughout the hearing to prove that its expenses are reasonable.207 PUCO is also required to make annual inspections of all businesses furnishing fuel to electric companies and could subpoena pertinent information for this purpose.208

As a further procedural protection, the Bill requires PUCO to conduct or cause to be conducted, at least annually, an audit of the utilities’ fuel-related practices and to report its findings once a year to the General Assembly.209 The Bill, however, does not specify that the audit be conducted by PUCO staff members,210 Such a requirement would have avoided the appearance of anything less than independence and would have provided objective appraisal of management activities.211 On the other hand, to have the PUCO staff conduct the audit would greatly increase the cost of regulation.212 A proposed amendment to House Bill 21, reported out of the Senate Committee, allowed PUCO to hire the auditing firm with the proviso that the firm was not presently conducting, and had not within the previous two years conducted, a financial audit of the company.213 This provision would have re-

204. Final Bill, supra note 18, at § 4909.159(B).
205. Id. § 4909.159(A).
206. Id. § 4901.191(B).
207. Id. § 4901.191(C).
208. Id. § 4905.67(A).
209. Id. §§ 4905.66(B)(2), (3).
210. Id. § 4905.69.
211. See notes 96-101 supra and accompanying text.
212. Id.
213. Senate Version, supra note 102, at § 4905.66(B)(2).
responded to much of the criticism discussed earlier in this article. Although this amendment was defeated on the floor and the original version reinstated,\textsuperscript{214} it should serve as a model for other states—at the least, commissions should be required to choose the auditing firm which would in turn be required to report directly to the commission.

House Bill 21 directs the Commission to phase in the provisions of the Bill within ninety days of the Bill's effective date.\textsuperscript{215} The Commission is also required to promulgate a rule implementing these provisions which will replace at least in name the administrative rules under the automatic FAC. No great changes, however, can be expected in administrative practice, given the short time period in which to promulgate the rules. Moreover, both the companies and the Commission are accustomed to current practices, and many of the old rules can be extended to cover the new format under House Bill 21. The basic reporting requirements will undoubtedly be much the same, probably raising the same questions about purchased power transactions that existed under the automatic FAC.\textsuperscript{216} It remains an open question whether PUCO will retain its target thermal efficiency or develop some new mode for inducing the efficient use and procurement of fuel. Because target thermal efficiency has been criticized by both company and consumer groups, perhaps PUCO will decide to keep target thermal efficiency as a yardstick for measuring a company's overall results but will no longer impose penalties for failure to meet the target.\textsuperscript{217} The controversy over the proper means to encourage efficiency will no doubt continue.

V. CONCLUSION

The time has come to revaluate the automatic FAC. In times of volatile coal prices, the automatic fuel adjustment clause may have been a valuable device in preventing the erosion of the electric companies' financial position, but with the stabilization of the price of coal, it is appropriate to reassess the automatic FAC as it is administered and applied under current state systems. Enactment of Ohio's House Bill 21 is the correct direction in which to proceed, as the bill cuts back somewhat on the scope of includable fuel costs, makes fuel cost increases less frequent and more diff-

\begin{itemize}
\item \textsuperscript{214} Final Bill, \textit{supra} note 18, at \$ 4905.66(B)(2).
\item \textsuperscript{215} \textit{Id.} \$ 4905.69.
\item \textsuperscript{216} \textit{See} notes 162–76 \textit{supra} and accompanying text.
\item \textsuperscript{217} \textit{See} notes 144–61 \textit{supra} and accompanying text.
\end{itemize}
cult, and generally tightens standards of verification and monitoring.

Still, the interim format is a compromise position between complete abolition and automatic pass-through. Because it isolates one component for review on a semiannual basis, it has been criticized for the same reasons as the automatic FAC. Nonetheless, even though the format runs the same risks of encouraging economic inefficiency, these tendencies should be less pronounced. Moreover, studies have shown that the inefficiency induced by the automatic FAC may be curtailed under more rigorous commission review and monitoring of fuel use and procurement practices.

The problem of regulatory lag will not be as acute in the interim hearing format as it would become with total abolition, where fuel cost questions would only be considered in the general rate-making hearing. The difficult question whether an optimum lag time will be created by this interim system remains. In other words, does the six-month interim provision create a situation where the marginal cost of more delay exceeds the marginal benefit of the efficiency incentives created by the delay?

Finally, consumer groups which have banked on lower electric rates as a result of the abolishment of the automatic FAC will no doubt be disappointed. Rates will not fluctuate as much, but neither will they be lower, as essentially the same costs of producing electricity will be reflected in consumer rates.

Despite the admitted inadequacies of an interim format, it is clear that automatic fuel adjustment should not become a permanent feature of the regulatory process except in those times (such as the years immediately following 1974) when fuel costs are extremely volatile in nature, are beyond the control of the electric companies, and present a serious threat to the financial integrity

218. Thus, even interim rate adjustments, based on some—but not all—costs of an electric utility, may be biased to register changes in those cost elements most vulnerable to increase without taking into account offsetting cost reductions such as productivity improvement. Similarly, interim adjustments may tend to weaken incentives for efficiency, in that management has less incentive to minimize costs than when the benefits of efficiency accrue to the shareholders. The interim adjustment may also distort the incentive for a utility to select the most efficient combination of inputs to generate electricity. See generally J.W. Wilson and Associates Inc., Automatic and Discretionary Adjustment Procedures for Electric Utility Rates, A Report to the Experimental Technology Incentives Program, National Bureau of Standards, U.S. Department of Commerce, March 1979. For a discussion of the failings of the automatic FAC, see notes 31–53 supra and accompanying text.

219. See note 53 supra.
of the utilities. Today this problem is no longer present with the same exigency. Thus, the automatic FAC should not be viewed as a sacred, unchangeable aspect of the regulatory process, but as an unusual emergency measure designed to avoid grave but temporary consequences.