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State-Level Policies and Regulatory Guidance for Compliance in the Early Years of the SO₂ Emission Allowance Trading Program

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Abstract

The Clean Air Act Amendments (CAAA) of 1990 instituted a historic experiment in emission allowance trading for sulfur dioxide (SO₂). A necessary requirement for evaluating this experiment is an understanding of how the cost recovery rules and other guidance given to firms by state-level public utility commissions (PUCs) and elected bodies has affected compliance behavior. From the onset of the CAAA, there has been varied response by state policy-makers toward SO₂ compliance. This paper presents a compilation of these actions as they took shape in states that were affected by the SO₂ program. Our primary interest is on the proposals that emerged during the embryonic years of the allowance program, from 1990 to 1993, when investment plans for utilities affected by the first phase of the program beginning in 1995 were taking shape.

Key Words: Clean Air Act Amendments, sulfur dioxide, allowance trading, regulation, electricity, public utility commissions

JEL Classification Nos.: H43, Q2, Q4

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STATE-LEVEL POLICIES AND REGULATORY GUIDANCE FOR COMPLIANCE IN THE EARLY YEARS OF THE SO₂ EMISSION ALLOWANCE TRADING PROGRAM

Ron Lile and Dallas Burtraw*

The Clean Air Act Amendments (CAAA) of 1990 instituted a historic experiment in trading of emission allowances for sulfur dioxide (SO₂). The program established a firm national cap for SO₂ emissions by electric utilities, and gave utilities the flexibility to buy, sell or bank emission allowances in order to comply with the national standard. The program has been widely celebrated and has become a point of reference for other national and international environmental initiatives. The Clinton Administration has referred to it as a model for international trading of greenhouse gas emissions, and the Environmental Protection Agency (EPA) is developing a 22 state regional nitrogen oxides (NO_x) "cap with trading" program that would affect electric utilities in an analogous program. Despite the attention it has received, the actual performance of the SO₂ program is not widely understood and interpretations of its success are varied.

This paper is intended to contribute indirectly to an evaluation of the SO₂ program by presenting information about cost recovery rules and other guidance given to firms by state-level public utility commissions (PUCs) and elected bodies that may be an important factor that affected investment behavior of electric utilities in the first years of the program. The first part of this paper offers a brief introduction to the program and issues that surface in evaluation of the program. The second part provides a brief discussion of the types of policies that contribute to the regulatory environment faced by investor owned utilities with respect to SO₂ compliance activities in the early 1990s. The main results of this survey are presented in appendix B to this paper, which includes a summary of rules and proposed rules that played a key role in shaping the debate in each state affected by the program. This information is summarized in Table A-1 which serves as appendix A.

INTRODUCTION

While the SO₂ emission allowance trading program has gained international attention as a potential model for regulation of pollutants, the actual performance of the SO₂ program is not well understood. Some advocates have argued that in effect economists and engineers got it so wrong in forecasting the cost of SO₂ control and the costs are so low with a trading program that we can virtually ignore costs when this type of regulation is applied to other

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pollutants such as CO₂.¹ Other analyses find the success to be more moderate, with costs that are lower than expected by a modest amount, and only a portion of the cost savings attributed to formal market trading (Bohi and Burtraw, 1997). The majority of savings are attributed to changes in fuel use and related technological changes, which likely would have occurred even in the absence of the SO₂ program (Ellerman *et al.*, 1997; Carlson *et al.*, 1998).

A more complete evaluation of the SO₂ program and one that may provide transferable lessons for the design of other programs would need to address at least two specific questions. One is the degree to which the potential cost savings that are available under the program have been fully realized. The second is the degree to which these potential cost savings are attributable to the formal allowance trading market. A necessary requirement for addressing both these questions is an understanding of the role that cost recovery rules and other guidance given to firms by public utility commissions (PUCs) and elected bodies has affected compliance behavior.

From the onset of the CAAA, there has been varied response by state policy-makers toward SO₂ compliance. Some of these actions and policies attempted to restrict a utility to choose a particular compliance option, such as mandating investments in flue gas desulfurization (scrubbers), and others sought to change the relative cost of various options as they are experienced by utilities by applying different cost recovery treatments for different compliance options. The motivations for these actions were varied also, but often they had to do with the goal of promoting economic development or protection of existing employment in the mining of high sulfur coal within the state. Some compliance strategies, especially the construction of scrubbers as an abatement option, would serve to sustain demand for in-state high sulfur coal and related employment.

State actions and policies that may influence the SO₂ reduction strategies of utilities fall into several categories including rate of return policies, cost recovery rules, treatment of allowance transactions, the mandating of specific compliance options, pre-approval of compliance plans, as well as the lack of action (Bohi and Burtraw, 1991). Many of the initial proposals were never enacted, or were rejected by courts. However, they may have had an influence on utility investment and compliance activities in the first years of the program, from 1990 to 1993, when investment plans for utilities affected by the first phase of the program beginning in 1995 were taking shape. Hence in some cases the information we report is out-of-date today but it is nonetheless of interest for the purpose of evaluation of the early years of the program.

A substantial literature has addressed aspects of this issue. Bohi and Burtraw, (1992) and Coggins and Smith (1993) describe the potential impact of these policies and the mechanism through which they can affect compliance costs. Fullerton *et al.* (1997), Winebrake *et al.* (1995) and Bernstein *et al.* (1994) attempt to quantify the potential cost of regulatory rules and find generally that restrictions on allowance trades could double the cost

¹ "Economists Cold Forecast; Assumptions: Expect their dire predictions about the impact of the global warming treaty on the United States. Ignore all of them," by Elaine Karmarck, *Baltimore Sun*, December 28, 1997.

of compliance for the state in which these restrictions are applied. Multiplied over many states, these effects are shown to have a significant potential effect on program costs (Winebrake *et al.*, 1995).

There is an inconclusive literature about the actual magnitude of the effect of state-level policies on compliance decisions or on the cost of compliance. Solomon (1994), Bohi (1994) and Rose (1997) find that the actual rules and guidance, or in some cases lack of guidance, provided at the state-level has distorted compliance behavior away from the cost minimizing strategies. Bailey (1997) arrives at a contrary conclusion.

Carlson *et al.* (1998) have examined the cost-effectiveness of actual activities in the first years of the program in 1995 and 1996. They find significant potential cost-savings were left unrealized, though some improvement is indicated between 1995 and 1996. Moreover, they comment on the inter-temporal cost-effectiveness regarding irreversible investments in scrubbers as a compliance strategy and argue that these investments were uneconomic *ex post*, given subsequent developments in the market. These investments may have more than doubled the cost of compliance in Phase I of the program. Further, these investments were uneconomic even when the federal subsidies for scrubber investments are taken into account.

Two factors of interest are likely to have influenced early investment decisions in scrubbing. One is the *uncertainty* that characterized the incipient program between 1990 and 1993. This uncertainty may have led many firms to embrace a risk averse, self-reliant strategy with respect to compliance rather than risking exposure through reliance on the incipient market. Investment in scrubbers is a likely way this behavior may have been manifested. In some cases the lack of regulatory guidance may have contributed to the uncertainty. A second factor in many cases is *explicit regulatory guidance* given by state-level regulators favoring scrubbing as a compliance option.

This paper presents a compilation of the rules and proposals at the state-level that characterized the regulatory environment as firms' compliance strategies took shape in the first years of the program. This compilation should contribute to a fuller understanding of the program, and make further evaluation possible. The information in this paper was collected from a variety of sources, including industry press² and compilations by other authors including Rose (1993, 1997), Bohi (1994) and Bailey (1997).

The information presented here should be useful for evaluation of the program for several reasons. One reason is to better understand the ability of firms to take advantage of permit trading programs. To the extent firm behavior in response to environmental regulation is affected by the firm's economic regulation, programs of this type may not unfold as simple theory suggests. A second reason is to provide a basis for understanding how new markets for federally created property rights take shape. Indeed, incentive based regulatory approaches are being discussed to address a number of environmental problems and many economists

² The industry press sources include various issues of *Utility Environment Report*, *Public Utilities Fortnightly*, *Electric Utility Week*, *Electrical World*, and *The Energy Daily*. The actual articles were obtained via Lexis-Nexis news service.

hope they will play a bigger role in the future. A third reason is to understand the transition from command and control regulations to incentive based regulations, at least in this one instance. This transition may inform our expectations about related changes occurring throughout regulated industries in the US, and even changes in the structures of national economies that are undergoing market-oriented reforms.

THE MENU OF STATE-LEVEL POLICIES THAT MAY AFFECT COMPLIANCE

Policy-makers at the state-level may affect investment behavior of regulated electric utilities in a variety of ways. Some of these are manifested through rule-makings and rate proceedings affecting utility profits directly, others are manifested through legislative proposals and jawboning that could affect the utility's compliance decisions indirectly, by affecting the nature of risk associated with different investments and the possibility of favorable or unfavorable recovery of costs. The most important factors that could affect compliance behavior are listed here and discussed briefly. For more comprehensive discussions of these issues see Rose (1997, 1993), Bohi (1994), and Bohi and Burtraw (1992).

Rate of return: Utility incentives depend heavily on such factors as the rate of return of return on capital investments and inclusion of capital or other expenditures in the rate base. If a utility is allowed a positive net rate of return on incremental capital investments, capital investments increase profits and may be favored in compliance plans. A negative net rate of return may have the opposite effect. This effect is analogous to the widely studied and controversial *pro-capital bias* sometimes associated with generation investments, known as the Averch-Johnson effect (Averch and Johnson, 1962). The ability to recover costs from ratepayers and earn a return for shareholders for any given investment depends on regulatory approval. Differential treatment of options affects a utility's relative return over a utility's investment choices. For example, if control technologies are allowed to earn a higher rate of return than expenditures on allowances, the marginal costs of control technology will be smaller than the marginal costs of allowances.

Cost recovery rules: For many states, policies regarding cost recovery for allowance purchases are not established or were not established in the early years of the program. According to early surveys by The National Regulatory Research Institute of state cost recovery rules (Rose *et al.* 1992, Rose and Burns 1993, Rose *et al.* 1993), most states treat allowances as current period expenses costs and cost savings are then passed through to the ratepayer. This provides little incentive for the utility to reduce costs through the use of allowances due to exposure to substantial risk from prudence reviews where allowance transactions may be viewed as imprudent. In addition, in most states the allowance costs are typically not recoverable until the year they are used and interest charges on capital used for allowance purchases are not recoverable while interest charges on capital investments are recoverable. This feature encourages investment in capital intensive compliance strategies such as on-site abatement with scrubbers and discourages purchase and banking of allowances

as a compliance strategy for future years. The regulator's freedom to establish the appropriate set of cost recovery rules may be constrained by regulatory tradition. Depreciation schedules offer an example. Some states allow quick recovery of capital costs incurred to ensure environmental compliance. In Kentucky, for example, recovery is achieved through a monthly surcharge. At least two utilities (Big Rivers Electric and Kentucky utilities) have received approval for such surcharges that will, in part, fund scrubber retrofits. As for capital investment, a utility's investment in plant under construction can be accounted for by either of two methods. Allowance for Funds Used During Construction (AFUDC) may be applied to the balance to be capitalized and later recovered through depreciation charges once the plant is placed in service. When this method is chosen, the financial statements of the utility reflect income 'credits,' but the utility realizes no current cash earnings from the investment in ongoing construction work.

Alternatively, the utility may be allowed to recover in a more timely way some portion of construction work in progress (CWIP). In this case, as costs are incurred they may be included as a portion of rate base. Where this treatment is allowed, CWIP generates cash earnings, which provide cash flow and an increase in coverage ratios. No AFUDC is taken on that portion of CWIP which is included in the rate base.

Treatment of benefits/costs from allowance transactions: Bohi and Burtraw (1992) state "the strength and effectiveness of the incentives created by allowance trading will depend in large part on the rules that public utility regulators apply to allowance transactions." Specifically, these PUC rules establish how utilities are compensated for participating in the allowance market and who--the ratepayers and/or shareholders--share in the benefits and costs of trading in allowances. Gains from sales may be substantial as FERC rules stipulate that allocated allowances have baseline (historical) costs equal to zero. Although many advocate that utilities should be allowed to retain a certain percentage of revenues from allowance sales in order to encourage their participation in the market, most states have ruled against this. This may be a result of most states requiring capital gains or losses from the sale of an asset to be passed on to ratepayers. The most notable exception is Connecticut where the PUC authorizes the sharing of gains/losses on allowance transactions.

Action mandating or favoring a particular option: Some state regulatory policy has been explicitly inconsistent with efficient emissions trading. In some cases, regulators have intentionally pursued policies designed to achieve other social objectives.³ Some of these objectives concern economic development and employment stability. States where utilities hold most of the endowment of allowances, for example, tend to be states with important indigenous high sulfur coal industries. The regulatory bodies in these states may provide additional incentives to hold allowances and penalize investments in technology that would

³ Economic models usually assume that the objective of state regulators is to minimize electricity prices. However, regulators have pursued varied objectives in the past.

reduce the use of high sulfur coal, and related employment. In fact, according to Winebrake *et al.* (1995), nearly every state with substantial phase I obligations enacted legislation to promote the use of local coal. For example, Indiana law provides for the continued use of in-state coal unless utilities can show economic justification sufficient to compensate for any negative impact on the Indiana coal industry. In Illinois, the legislature mandated the use of scrubbers at two coal plants. Mandating scrubbers had the additional perceived benefit of increasing a plant's workforce by approximately 20% (Gordon, 1990). In contrast, states such as Massachusetts, New York, Wisconsin and Minnesota that are sensitive to the environmental effects of SO₂ emissions have imposed strict local standards that supersede federal regulations (Rico, 1995). These states may prefer abatement alternatives over the use of allowances for achieving compliance. In fact, they may even restrict in-state utilities' participation in the SO₂ market.

Thus, state regulators may choose to explicitly promote one compliance strategy over another if it is perceived to be in the best interests of their constituency. If minimizing the total economic costs of reducing SO₂ emissions is not the sole or even the main objective of individual state regulators, even though it may be the reason for the trading program, then it is anyone's guess what the outcome of emissions trading will be.

Pre-approval of particular compliance plans: Uncertainty may also lead utilities to prefer options that allow them to achieve compliance on their own and remain independent of the market (Rose 1997). Experience with previous prudence reviews may influence utility choice regarding the market by affecting the utility's perception of market-related risk. Utilities must anticipate what practices will be viewed favorably by PUCs in the rate making process and may be hesitant to enter into an untested market. Some states including Ohio, Pennsylvania and Indiana require pre-approval of utility compliance plans. In at least one case, American Electric Power's (AEP) Gavin Plant in Ohio, disapproval of a compliance plan has led a utility to scrub.

Furthermore, a state's Integrated Resource Planning processes (IRP) may also discourage utilities from engaging in the allowance market. Utilities may fear that either purchasing or selling allowances may draw unwanted attention and jeopardize their IRP processes. Typically, IRP plans for an entire utility system (instead of a specific unit) are submitted for approval to the PUC. Thus, intra-utility trading can occur without submitting a plan with a net increase or decrease in emissions. Inter-utility trades are more subject to scrutiny in the IRP process. In any case, utilities look to either compliance plan reviews or the IRP for an indication of what costs will probably be recovered (Rose 1993).

Lack of action: Bohi (1994), looking at compliance plans of 11 states accounting for 85% of Phase I allowances, concluded two major problems characterized early implementation of the program. First, and more importantly, regulators were not providing active encouragement to utilities to engage in emissions trading. Second, utilities were behaving as if trading was restricted to within state and/or system boundaries.

The lack of regulatory action forces utilities to choose compliance options under conditions of great uncertainty. Such uncertainty may force utilities to choose more conservatively. That is utilities may choose only the options that they anticipate will receive favorable regulatory treatment, or options that will allow them to comply with the program without depending on the allowance market. Because purchases of allowances were a new option, utilities may have chosen other options with treatments that seem more certain simply due to the relative risks influenced by their regulatory environment.

Summary: State regulatory processes treat utility costs associated with different compliance options in different ways. This asymmetric treatment of compliance options may make more expensive options appear less expensive to utilities. The overall impact of regulation on utility spending to achieve compliance has the potential of being quite large. The level of impact depends both on existing policies (such as the allowed rate of return) and on the actions taken by states in implementing the SO₂ allowance trading program. Specifically, as Bohi and Burtraw (1992) noted, the effectiveness (i.e., cost minimization) of allowance trading will depend primarily on the rules that public utility regulators apply to allowances and allowance transactions. Moreover, if regulators are not careful, combining traditional "cost-plus" treatment of compliance assets with allowance trading may, in fact, increase the cost of compliance (Fullerton *et al.*, 1997).

Appendix A provides a summary table of state-level actions that we have compiled. A more detailed description of these actions on a state-by-state basis is provided in Appendix B.

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Appendix A. Summary Table of State-Level Actions

State	Ratemaking Treatment of Allowances	Costs Recovery Bias	Action Favoring a Particular Option	High Sulfur Coal Deposits	Phase 1 allocations	Phase 2 allocations
Alabama	1				1399937	8697538
Arkansas					0	2681112
Connecticut	2		3		94	1854916
District of Columbia		2b			0	38270
Florida	1	1a, 2f			967339	14027566
Georgia	1	4			3693336	11551400
Illinois	1	2c,2d, 2e, 2f, 3	1a, 2c	1	2245661	11009342
Indiana	1	2f	2b, 2d	1	3926949	14083626
Iowa	1	1b	2a, 7a		202725	3579636
Kentucky	1	2b, 2f		1	1879652	3269548
Maryland	1	2b			768784	3948030
Massachusetts	2		3		569410	4496320
Michigan			3		334782	9938498
Minnesota			3		105150	2970102
Mississippi	1	2f			410120	1865892
Missouri	3		2b		2980026	7717598
New Hampshire			3		208203	808182
New Jersey			2e		136568	1871888
New York	1		6		967115	7440656
North Carolina	1	1a	2a		0	7963812
Ohio	1	1b, 2e, 2f	1b, 2c, 4, 5, 7a	1	7048474	18396573
Oklahoma		3	1c	1	0	3479622
Oregon					0	372986
Pennsylvania	1	1b, 2f	1d, 7b	1	3165341	14949152
Tennessee					2512940	7425926
UT					7674	1943560
Virginia			1b	1	0	3518492
Washington			3		0	1101336
West Virginia	3	2f		1	3272275	11448792
Wisconsin	3	1b, 2g	2a, 3		1092590	4783092

Legend:

Ratemaking Treatment of Allowances:

- 1 automatic pass-through of all costs and savings to ratepayers (neutral - treated like fuel)
- 2 incentive-based sharing of costs and savings between ratepayers and shareholders
- 3 case by case

Cost Recovery Bias:

- 1 pro-allowance investments through carrying charge recovery
 - a analogous to CWIP
 - b analogous to AFUDC
- 2 pro-capital
 - a environmental compliance overview clause. Recognizes CWIP in rate base. Changed now to mechanism fuel adjustment clause.
 - b surcharge mechanism
 - c rate incentives
 - d direct subsidies
 - e tax credits
 - f pollution control CWIP (cash flow)
 - g SO2 emissions reduction incentive
- 3 against fuel-switching
- 4 anti-allowance investments through denying carry charge recovery

Action Favoring a Particular Option:

- 1 statute bias toward capital intensive compliance due to coal
 - a limit decrease of in-state coal use to 10%
 - b tax rebate for using in-state coal
 - c at least 10% of coal use must be from in-state
 - d other
- 2 bias toward capital intensive compliance
 - a requires disclosure of transactions
 - b requires pre-approval of allowance transactions
 - c requires pre-approval of compliance plans which guarantees compliance costs
 - d requires mandatory pre-approval of compliance plan meeting specific criteria
 - e other
- 3 state-mandated environmental standard
- 4 holding company: case by case
- 5 case by case confidentiality clause
- 6 prevent sale of allowances based on environmental concerns (1997)
- 7 Hedging activities involving allowances
 - a authorized
 - b prohibited

Appendix B. A State by State Summary

As noted in the main text, policy-makers at the state-level may affect SO₂ compliance behavior in a variety of ways. Some of these are manifested through rule-makings and rate proceedings while others are manifested through legislative proposals. This appendix presents a compilation of the rules and proposals at the state-level that characterized the regulatory environment as firms' compliance strategies took shape in the first years of the program. The information in this appendix was gleaned mostly from industry press such as *Utility Environment Report*, *Public Utilities Fortnightly*, *Electric Utility Week*, *Electrical World*, and *The Energy Daily*.⁴ Some additional information was compiled by other authors including Rose (1993, 1997), Bohi (1994) and Bailey (1997). As in the text, each states' actions are summarized by the most important factors that could affect compliance behavior: rate of return; cost recovery rules; the treatment of benefits/costs from allowance transactions; actions mandating or favoring a particular option; pre-approval of particular compliance plans; and, the lack of action.

⁴ This information was obtained from the use of Lexis-Nexis news service.

ALABAMA

Rate of Return: No action.

Cost recovery rules: Alabama Public Service Commission (PSC) rules require revenues and costs from allowance purchases and sales to be passed on a *one for one* basis to ratepayers through an *Energy Cost Recovery (ECR)* clause. Revenues generated through participation in allowance auctions are returned to ratepayers entirely through a separate accounting clause. In addition, the Alabama PSC also uses the accounting practices for allowance purposes such as *historic cost* accounting delineated in the Federal Energy Regulatory Commission (FERC) policy statement on the rate-making treatment of allowances.

Treatment of benefits/costs from allowance transactions: No action.

Action mandating or favoring a particular option: No Action

Pre-approval of particular compliance plans: No Action.

Lack of Action: N/A.

CASES: None

ARKANSAS

Rate of Return: No Action

Cost recovery rules: No Action

Treatment of benefits/costs from allowance transactions: No Action

Action mandating or favoring a particular option: No Action

Pre-approval of particular compliance plans: In 1991, the Arkansas Public Service Commission incorporated CAAA90 compliance requirements into Integrated Resource Plan (IRPs) guidelines for electric utilities' (and electric cooperatives). Under these guidelines, electric utilities and cooperatives must account for quantitative environmental effects and to address the expected obligations under the CAAA90. Each utility's IRP must include: planned operation levels of all affected facilities; expected emission reduction mandates; and specific methods for emission reduction such as fuel switching, retrofit of pollution control devices, energy conservation, and purchase of emission allowances. In addition, Arkansas regulators have proposed regional integrated resource planning to address multi-state utility planning and allocation issues.

Lack of Action: N/A

CASES:

Re Arkansas Elec. Co-op. Corp., Dkt. No. 92-229-U, Order No. 1, Aug. 28, 1992

Re Oklahoma Gas & Elec. Co., Dkt. No. 92-164-U, Order No. 1, July 7, 1992

Re Southwestern Elec. Power Co., Dkt. No. 92-165-U, Order No. 1, July 2, 1992

Re Arkansas Power & L. Co., 136 PUR4th 59

CONNECTICUT

Rate of Return: No Action

Cost recovery rules: No Action

Treatment of benefits/costs from allowance transactions: The Connecticut Public Utility Commission established an *incentive based* approach to the rate-making treatment of allowances. Specifically, in 1993, Connecticut issued a generic order (Doc. No. 92-12-08) requiring that 85% of the costs and benefits resulting from allowance transactions on non-bonus allowances be returned to the ratepayers with the other 15% of the costs or benefits retained by the utility. Thus, shareholders would cover out-of-pocket costs for sales of allowances and some risks associated with them in return for a 15% share of revenues. The 15% split for shareholders was specifically meant as an incentive to insure that the company would continue to "aggressively and efficiently" market surplus allowances. Since ratepayers paid other costs, including plant operating costs and company salaries, the commission believed that it was proper to assign some out-of-pocket costs for selling allowances to the shareholders.

Non-incentive revenue, such as revenue from EPA advance auctions as well as revenue from the sale of bonus Conservation and Renewable Energy Reserve (CRER) allowances, are to be returned 100% to the ratepayers. All revenue is returned to the ratepayers by offsetting rate increases due to the costs incurred from state regulations which require utilities to undertake conservation load management.

Action mandating or favoring a particular option: No Action

Pre-approval of particular compliance plans: No Action

Lack of Action: State law caps SO₂ emissions to 1.1 lbs SO₂/mmBtu for oil- and coal-fired units.

CASES: None

DISTRICT OF COLUMBIA

Rate of Return: No Information

Cost recovery rules: No Information

Treatment of benefits/costs from allowance transactions: No Information

Action mandating or favoring a particular option: Commission allowed a cost-recovery surcharge mechanism in a Potomac Edison case (details missing)

Pre-approval of particular compliance plans: No Information

Lack of Action: No Information.

CASES: No Information.

FLORIDA

Rate of Return: No Action

Cost recovery rules: In Florida, cost recovery clauses are used to either collect allowance expenses or rebate allowance revenues. One Florida utility uses an environmental compliance cost recovery clause while the other uses a fuel adjustment clause. Both clauses are adjusted every 6 months, once in the spring and once in the fall. The Florida PUC, however, allows net revenues generated from below the line allowance transactions to be retained 100 % by the utility.⁵

On April 13, 1993, Florida established an environmental cost recovery clause (ECRC). The new statute authorized the recovery of prudently incurred environmental compliance costs through the environmental cost recovery factor. The PSC defines environmental compliance costs" as all costs or expenses incurred by an electric utility in complying with environmental laws or regulations, including but not limited to in-service capital investments. The statute contains the following non-exclusive list of expenses recoverable through the ECRC: in-service capital investments, including the utility's last authorized rate of return on equity; operation and maintenance expenses; fuel procurement costs; purchased power costs; emission allowance costs; and, direct taxes on environmental equipment. This new statute, however, caused some confusion. Specifically, the issue of double counting arose – "How should the PSC include rate case type expenses in the environmental cost recovery clause while at the same time ensuring that the utility is not double recovering such expenses?"

Upon hearing Gulf Power's case, Florida's PSC decided to allow the recovery of costs associated with an environmental compliance activity through the ECRC if the costs fulfilled a number of criteria. Specifically, the costs could be recovered through the ECRC if:

1. the costs were prudently incurred after April 13, 1993;
2. the activity is legally required to comply with a governmentally imposed environmental regulation enacted, became effective, or whose effect was triggered after the company's last test year upon which rates are based; and,
3. such costs are not recovered through some other cost recovery mechanism or through base rates.

Treatment of benefits/costs from allowance transactions: No Action

Action mandating or favoring a particular option: The PSC found that it was appropriate to allow the *recovery of carrying costs associated with CWIP through the environmental cost recovery factor*. Florida's practice is to include CWIP that does not earn AFUDC in the rate

⁵ Below the line transactions only involve shareholder money.

base and to include additional CWIP, that would not otherwise earn AFUDC, in an amount needed to assure adequate financial integrity. (TECO, Docket No. 920324-EI, Order No. PSC-93-0165-FOF-EI, (2/2/93). This "amount" is then recovered in the ECRF.

Pre-approval of particular compliance plans: No Action

Lack of Action: N/A

CASES:

TECO, Docket No. 920324-EI, Order No. PSC-93-0165-FOF-EI, (2/2/93)

GEORGIA

Rate of Return: No Action

Cost recovery rules: On an annual basis, utilities are required to flow any allowance gains or losses at *market value* rather than at FERC historic cost accounting through the *fuel adjustment clause* and as such will be passed onto ratepayers.

Treatment of benefits/costs from allowance transactions: In April 1994, with respect to the accounting and rate-making treatment of allowances, the Georgia Public Service Commission issued a *procedural response* requiring Georgia Power to include *emissions allowances in inventory at cost and will expense them as they are consumed* with no consideration of interest expense. As in Florida, below the line transactions, however, would be kept entirely by the utility.

Furthermore, the PSC ruled that all profits (or losses) from Phase I Extension Pool allowances would flow to the ratepayers. This came about as a result of the commission's review of Georgia Power's request to keep fifty percent of all profits on allowances sales from those allowances that Georgia Power acquired from joining the Phase I Extension Pool.

Action mandating or favoring a particular option: No Action.

Pre-approval of particular compliance plans: The Georgia Public Service Commission has incorporated CAAA compliance requirements in its IRP rules for electric utilities. The PSC directed electric utilities to submit proposals for compliance with the act in their IRPs. Each proposal must provide a comprehensive analysis of its plans for meeting the SO₂ emission requirements of the act in a least-cost manner. All available compliance options must be considered in the analysis, including fuel switching, retrofit of pollution control devices, energy conservation, and purchase of emission allowances.

Lack of Action: N/A

CASES:

Re Addition of New Rule Chap. 515-3-4, Integrated Resource Planning, 128 PUR4th 204 (Ga.PSC1991).

Re Trading and Usage of, and the Accounting Treatment for, Emissions Allowances by Electric Utilities in Georgia, Docket No. 4152-U, May 19, 1994; Docket No. 4152-U (First Supplemental Order), July 1, 1994 (Ga.P.S.C.).

ILLINOIS

Rate of Return: No Action

Cost recovery rules: *All gains and losses* from allowance purchase and sale are to be passed on 100 % to the ratepayers through the *fuel adjustment clause*.

Treatment of benefits/costs from allowance transactions: Directly related to allowances, the Illinois Commerce Commission has issued two orders requiring all gains and losses from allowance purchase and sale be passed on 100% to the ratepayers through the fuel adjustment clause. Expenses and revenues are recovered monthly *as the allowances are used* to match tons of SO₂ emissions. The Commission values allowances at *historical cost*. Gains and losses from below the line transactions are kept entirely by the shareholders.

Action mandating or favoring a particular option: Capital: Illinois policymakers considered a number of *regulatory and financial incentives and disincentives* aimed at encouraging in-state utilities to *install scrubbers or other technological fixes* rather than switch to low-sulfur coal produced in other states. Specifically, the state looked at a number of policy tools as it tried to develop a policy formula to address in-state compliance concerns, the potential loss of out-of-state markets for Illinois' high sulfur coal, and the state's long-term energy needs.

To dissuade utilities from fuel switching, the Illinois Commerce Commission contemplated requiring them to show that, among all compliance options, fuel switching would have the lowest total economic and social impact in their service territory. Some of the regulatory incentives considered included *guaranteeing utilities they will recover their costs for installing scrubbers*. Financial incentives included reducing the capital or financing costs for utilities choosing scrubbers or clean coal technologies as part of their compliance strategies. Specifically considered were *rate incentives, direct subsidies, or state or property tax credits*. Subsidy programs looked at including additional rules concerning disposition of SO₂ allowances, which could be used to offset the cost of the subsidy. In addition, the state also considered setting performance standards for utilities that can be met only by using scrubbers or other technologies.

Through another mechanism, the Illinois Coal Bill (1991), Illinois tried to protect the continued use of Illinois coal by prohibiting a utility from switching fuels, absent commission approval, if the switch would decrease the utility's use of Illinois coal by more than 10 percent. The coal bill specifically mandated the installation of pollution control devices at Baldwin station and a Commonwealth Edison plant. It also provided for a \$35 million grant for Illinois Power to support the scrubbing activities. This bill also provided for the inclusion

of pollution control CWIP in the rate base. It is our understanding that the courts ultimately ruled against these statutory directives on fuel use, but these initiatives were an important part of the policy dialogue during the early phase of compliance with Title IV.

Allowances: Illinois also tried to pass Senate Bill 48. This bill exempted allowances from being considered "property." Therefore, allowances would not be subject to Illinois Commerce Commission pre-sale review. Illinois utilities backed Senate Bill 48 because they feared that the Illinois Public Utilities Act (PUA) threatened allowance sales with property provision review by the commission. Although Section 403 (f) of the 1990 Clean Air Act Amendments states an allowance "does not constitute a property right," and that recent state legislation enables the ICC to treat allowances as a cost of fuel through the fuel adjustment clause, many utilities were reluctant to engage in allowance transactions.

Pre-approval of particular compliance plans: Illinois enacted a pre-approval statute. However, unlike the pre-approval statutes in other states, the pre-approval statute enacted in Illinois went much further. It specifically directed utilities to achieve compliance with the act through the installation of pollution control devices (scrubbers) at certain coal-fired generating units. And the statute guaranteed that compliance costs "estimated and approved by the commission prior to implementation shall be deemed prudent and reasonable for cost recovery purposes." Pre-approval, however, did not guarantee recovery of related costs.

Lack of Action: N/A

CASES:

Re Illinois Power Co., 92-0191, Oct. 15, 1992 (Ill.C.C.).

Re Central Ill. Pub. Serv. Co., 91-0193, March 18, 1992 (Ill.C.C.).

Re Illinois Power Co., 127 PUR4th 354 (Ill.C.C.1991).

Compliance Preapproval Statutes: Illinois Public Utilities Act, section 8-402.

INDIANA

Rate of Return: No Action

Cost recovery rules: No Action

Treatment of benefits/costs from allowance transactions: No Action

Action mandating or favoring a particular option: *Allowances:* Indiana Utility Regulatory Commission issued a statute which requires *up front approval of all allowance purchases and sales*, as well as an order which dictates that allowances are the property of ratepayer. The Indiana Utility Regulatory Commission (IURC) has also ruled that PSI Energy must conform its emissions allowances accounting practices to those laid out by the FERC final rules issued in 1993. Furthermore, (since FERC rules did not explicitly treat banked allowances) the Commission rejected PSI Energy's proposal to add incremental costs to the historic costs of the banked emissions allowances ruling such allowance costs are to be recorded at their acquisitions costs. Future hearings were to address issues of carrying charges on allowances purchased specifically for banking.

Capital: Indiana Utility Regulatory Commission allowed PSI Energy, the state's largest utility, to *recover the cost of financing environmental equipment under construction* (Case No. 40003). This was done through a 4.3% rate hike and a mechanism to recover those additional charges (EUW, 27 Feb, 16). The IURC ruling represented PSI's first request for rate recovery under provisions of an Indiana law that allows electric utilities to *recover their investments in qualified pollution-control construction projects as they are being built (CWIP)* rather than after the projects are on-line and considered to be used and useful.

Allowances: Indiana Utility Regulatory Commission issued a statute which requires *up front approval of all allowance purchases and sales*, as well as an order which dictates that allowances are the property of ratepayer. The Indiana Utility Regulatory Commission (IURC) has also ruled that PSI Energy must conform its emissions allowances accounting practices to those laid out by the FERC final rules issued in 1993. Furthermore, (since FERC rules did not explicitly treat banked allowances) the Commission rejected PSI Energy's proposal to add incremental costs to the historic costs of the banked emissions allowances ruling such allowance costs are to be recorded at their acquisitions costs. Future hearings were to address issues of carrying charges on allowances purchased specifically for banking.

Pre-approval of particular compliance plans: By statute, the IURC *must approve* a utility's compliance plan if it meets the following criteria:

- the plan is designed to meet or exceed the requirements of the CAAA;

- offers a reasonable least-cost strategy over the life of the compliance investment; allows for reliable, efficient, and economic electric service;
- and, either provides for the continued use of Indiana coal, or, if not, that the policy "is justified by economic considerations, including the effects in the regions of Indiana in which the mining of coal provides employment and in the service territory of the utility."

This law was passed with the strong support of the Indiana coal industry and UMWA.

Since the law's enactment, three utilities -- PSI Energy, Indianapolis Power & Light and Southern Indiana Gas & Electric -- have had their compliance strategies approved by the IURC. While their plans vary, all three companies installed at least one scrubber during Phase I of the Clean Air Act so they can continue burning high-sulfur Indiana coal. The statute basically required utilities desiring to secure the economic benefits of regulatory pre-approval of their compliance plans to use Indiana coal over other options that otherwise would include switching to out-of-state coal.

Lack of Action: N/A

CASES:

Re Southern Ind. Gas & Elec. Co., Cause No. 39347, Oct. 14, 1992 (Ind.U.R.C.).

Compliance Plan Preapproval Statutes: Indiana Statutes, Title 8, Article 1, Chapter 27, Environmental Compliance Plans

IOWA

Rate of Return: No Action

Cost recovery rules: In Iowa, all moneys generated from the purchase or sale of allowances flow through to the ratepayer *one for one* through an *energy adjustment clause*. In order to recover the *cost* of purchasing allowances, a rate-regulated utility must file monthly reports with the commission. The reports must indicate the number and cost of allowances used per month, as well as the number and price of all allowances purchased or sold in that month, and the dollar amount of any gains or losses.

Treatment of benefits/costs from allowance transactions: The revenues and costs associated with the purchase or sale of allowances flow through to the ratepayer *one for one* through an *energy adjustment clause*.

Action mandating or favoring a particular option: In 1993, the IUB issued proposed rules on how various types of SO₂ allowances will be valued for rate-making purposes (RMU-93-1). The proposed rules applied to all rate-regulated utilities in Iowa and constituted the first phase of IUB's examination of how emission allowances are to be dealt with in rates. The proposed rules value "*statutory*" allowances (those allocated by the U.S. Environmental Protection Agency to affected units) *at zero cost* to the utility, *while direct sale allowances, auction allowances, and purchased allowances are all valued at historical cost, or the amount of cash or equivalent paid to acquire an asset*. Furthermore, the rules further proposed that a utility's allowance inventory account is to be valued at the weighted average cost of all the allowances eligible for use during that year. Other allowances are either to be classified as plant held for future use or will be held without any possibility of earning a return. The IUB also believed that allowances acquired as part of a package with equipment, fuel or electricity, should be valued at their fair market value as of the time they were acquired.

Allowances transferred from a utility to a parent or to an unregulated subsidiary are to be transferred at the higher of historical cost or fair market value. Conversely, allowances transferred from an unregulated subsidiary or parent to a utility are to be transferred at the lesser of original cost or fair market value. Original cost is defined as the cost, either zero or positive, before any secondary allowance transaction has taken place.

The proposed rules also address the issue of price hedging, or the use of futures contracts or options to guard against unfavorable price changes. The IUB proposed that electric utilities defer the costs or benefits from hedging transactions until the allowances are acquired, sold, or otherwise disposed of. Then, they can be included in inventory values.

Additionally, the IUB proposed that a working capital reserve of allowances be established in each utility's rate case proceeding. So long as the working capital reserve falls within IUB approved limits, the reserve will earn a return at the utility's authorized rate of return. Allowances in the reserve that extend beyond the IUB's approved numerical limit will not earn a return.

Pre-approval of particular compliance plans: No Action

Lack of Action: N/A

CASES:

Re Clean Air Act Amendments of 1990, Docket No. NOI-91-1, July 15, 1991 (Iowa U.B.).

KENTUCKY

Rate of Return: No Information

Cost recovery rules: No Information

Treatment of benefits/costs from allowance transactions: No Information

Action mandating or favoring a particular option: A Kentucky ruling (KRS 278-183) allows cost recovery of capital expenditures for SO₂ compliance through monthly surcharges. This ruling is geared toward quick cost recovery on scrubbers.

Pre-approval of particular compliance plans: No Action

Lack of Action: No action taken.

CASES: None

MARYLAND

Rate of Return: No Action

Cost recovery rules: Potomac Edison's allowance revenues and costs are swallowed up in a *fuel cost clause*. Potomac Electric Power Company (PEPCo) also has a tariff (Fuel Rate-Rider) which allows pro-rata revenues from the EPA auction to float through the fuel rate being *returned dollar for dollar to the ratepayers*.

Treatment of benefits/costs from allowance transactions: The Maryland Public Service Commission has issued *no final disposition on how allowances will be treated* for rate-making purposes.

Action mandating or favoring a particular option: Upon reviewing Potomac Edison case, the Maryland PSC authorized the utility to institute a *special rate surcharge* to recover carrying costs associated with its Clean Air Act compliance plan (but continued to exclude pollution control investment from the charge against income for AFUDC). The surcharge would be computed on the net-of-tax return for CAAA investments, and grossed up by a revenue conversion factor.

Pre-approval of particular compliance plans: The PSC found that pre-approval of compliance plans would not necessarily result in rate recovery of specific dollar amounts expended. It decided that the surcharge mechanism should face cost review in base rate proceedings.

Lack of Action: The PSC has issued *no final disposition on how allowances will be treated* for rate-making purposes.

CASES:

Re Potomac Edison Co., 129 PUR4TH 1 (MD.P.S.C.1992)

MASSACHUSETTS

Rate of Return: No Action

Cost recovery rules: No Action

Treatment of benefits/costs from allowance transactions: Western Massachusetts Electric plans to *credit ratepayers with 80% of the revenues* it gains from selling SO₂ allowances. The 80% credited to ratepayers is divided among demand-side management, environmental programs, and economic development incentives. A portion also goes directly toward offsetting rates. The *remaining 20% of the revenues* go to *shareholders* as an incentive for the utility company to obtain the maximum revenues possible for the sale of surplus SO₂ allowances.

Action mandating or favoring a particular option: No Action

Pre-approval of particular compliance plans: No Action

Lack of Action: A 1987 state law restricts SO₂ emissions to 1.2 lbs SO₂/mmBtu on a company and state average.

CASES: None

MICHIGAN

Rate of Return: No Information

Cost recovery rules: No Information

Treatment of benefits/costs from allowance transactions: No Information

Action mandating or favoring a particular option: No Information

Pre-approval of particular compliance plans: No Information

Lack of Action: All fossil fuel units face a state SO₂ emissions restriction of 1.0 lbs SO₂/mmBtu.

CASES: None

MINNESOTA

Rate of Return: No Information

Cost recovery rules: No Information

Treatment of benefits/costs from allowance transactions: No Information

Action mandating or favoring a particular option: No Information

Pre-approval of particular compliance plans: No Information

Lack of Action: State emissions cap based on a system-wide basis.

CASES: None

MISSISSIPPI

Rate of Return: No Action

Cost recovery rules: In July 1991, the Mississippi Public Service Commission told Mississippi Power Co. to recover CAAA compliance costs, including of all revenues and expenses from allowance transactions, through its *environmental compliance overview* (ECO) rate adjustment, instead of its *performance evaluation plan* (PEP). The PSC preferred the ECO rate schedule because it recognized CWIP in the rate base and would recover all major CAAA compliance expenditures while protecting ratepayers through small incremental rate steps.

Starting in December 1995, at the request of the Mississippi Power Company, the PSC revised the means by which revenues and expenses are recovered. The costs and gains from allowance purchases and sales are now incorporated into the *fuel adjustment clause* (FAC) and are now recovered in the same manner as other direct fuel expenses. All moneys continue to be recovered (or rebated) *one for one* to ratepayers.

Treatment of benefits/costs from allowance transactions: The costs and gains from allowance purchases and sales and are recovered (or rebated) *one for one* to ratepayers through the *fuel adjustment clause* (FAC).

Action mandating or favoring a particular option: No Action

Pre-approval of particular compliance plans: No Action

Lack of Action: N/A

CASES:

Re Mississippi Power Co., 135 PUR4th 8 (Miss.P.S.C.1992.).

MISSOURI

Rate of Return: No Action

Cost recovery rules:

Treatment of benefits/costs from allowance transactions: Missouri has had three cases that raised the issue of allowance expenses and revenues. In each case, the rate-making treatment of allowances was handled differently. Kansas City Power and Light's allowance sale was approved by the PUC and required KCP&L to defer all revenue until a future rate case. Empire District Electric Company was required to subtract off all annual EPA auction revenue from its fuel costs calculations. The decision in the Union Electric Case was to allow the utility to retain all profits from allowance sales if the margin was less than 11% with any margin in excess of 11% to be split fifty-fifty between the utility and the ratepayers.

Action mandating or favoring a particular option: The Missouri Public Service Commission issued an order that required utilities to get *prior approval to sell allowances*. The PUC recognized sales may be decided quickly so in practice the PUC gives blanket permission for all sales.

Pre-approval of particular compliance plans: No Action

Lack of Action: In May 1995, in Kansas City Power & Light Company's Case No. EO-95-184, the PSC found that it was unnecessary for a decision to be made on the rate-making or accounting treatment for allowance sales.

CASES:

Re Missouri Pub. Serv. Co. 129 PUR4th 381 (Mo.P.S.C.1991).

Re Missouri Pub. Service, Case Nos. EO-91-358 and EO-91-360, December

NEW HAMPSHIRE

Rate of Return: No Information

Cost recovery rules: No Information

Treatment of benefits/costs from allowance transactions: No Information

Action mandating or favoring a particular option: No Information

Pre-approval of particular compliance plans: No Information

Lack of Action: State law caps SO₂ emissions similar to federal law (affects all Phase I units).

CASES: None

NEW JERSEY

Rate of Return: No Action

Cost recovery rules: No Action

Treatment of benefits/costs from allowance transactions: No Action

Action mandating or favoring a particular option: In Atlantic Electric's request authorization to burn coal at B.L. England for another five years, the New Jersey Department of Environmental Protection recommended that the company install scrubbers at the plant and added that purchasing emission allowances to comply with the Clean Air Act was "not preferred."

Pre-approval of particular compliance plans: The New Jersey Board of Public Utilities (BPU) required all state utilities affected by the Clean Air Act Amendments to submit preliminary compliance plans so the board could begin studying various policies on allowance trading and technology approvals.

Lack of Action: N/A

CASES: None

NEW YORK

Rate of Return: No Action

Cost recovery rules: Although not explicitly addressed, as of 1994, the New York Public Service Commission was leaning towards revenue rebate and recovery *one for one* through a *fuel adjustment clause* (FAC).

Treatment of benefits/costs from allowance transactions: On March 2, 1994, the New York Public Service Commission issued an order requiring all allowance moneys be deferred until a generic order is issued. At the time, the Commission was leaning towards revenue rebate and recovery *one for one* through a *fuel adjustment clause* (FAC). Another strong point of contention was how to treat allowance swaps and other allowance loans. This contention arose from trades in which the Long Island Lighting Company had been involved with.

Action mandating or favoring a particular option: In July 1997, the governor of New York proposed legislation that would let officials stop trades of SO₂ allowances if they harm the state's environment. In addition, there were bills already pending in the state that penalize utilities for such trades, but the governor's proposal goes further in actually stopping the transactions. The legislation would prohibit the sale of SO₂ allowances to out-of-state sources whose emissions would increase acid rain damage in New York. Before inter-state transactions could proceed, an environmental assessment would have to be submitted to the Dept. of Environmental Conservation, and DEC could stop the trade. The measure would also license brokers that buy and sell the allowances, and it would set up a register to monitor and track the trading of allowances.

In another area, the governor was trying to keep Lilco allowances in the state by letting the Long Island Power Authority (LIPA) purchase them at one-third the market cost. LIPA may take over many of Lilco's assets under a state-sponsored buyout plan. Meanwhile, an earlier bill addressing Lilco's SO₂ trades (A-4625) has passed the state Assembly and is being debated in the Rule Committee of the Senate. Instead, it penalizes utilities by denying them revenue from trades if their allowances are used in areas that hurt the state. It also allows the Public Service Commission to impose penalties as high as three times the value of the allowance trade. This would be allowed because the Clean Air Act allows states to preempt the federal government on rates, revenues and prudency decisions.

Recently, New York's governor announced that LILCO has agreed not to sell SO₂ allowances for use by power plants in 15 states whose pollution causes acid rain in New York State. LILCO and the State Department of Environmental Conservation (DEC) signed a memorandum of understanding under which the utility voluntarily agrees to permanently

restrict the future sale of sulfur dioxide credits for use by power producers in New York, New Jersey, Pennsylvania, Maryland, Delaware, Virginia, North Carolina, Tennessee, West Virginia, Ohio, Michigan, Illinois, Kentucky, Indiana and Wisconsin. All subsequent purchasers of LILCO SO₂ allowances also are bound by the agreement and are subject to New York jurisdiction and venue if the agreement is violated. One state senator stated that LILCO's decision not to sell its credits to Midwest polluters was exactly the kind of action he had hoped for when he introduced earlier legislation.

Pre-approval of particular compliance plans: No Action

Lack of Action: N/A

CASES: None

NORTH CAROLINA

Rate of Return: No Action

Cost recovery rules: No Action

Treatment of benefits/costs from allowance transactions: No Action

Action mandating or favoring a particular option: *Sales of allowances must be reported to the Commission and the proceeds from such sales are to be used to offset the net investment in allowance inventory.*

Pre-approval of particular compliance plans: Prompted by requests from Carolina Power and Light and Duke Power, the North Carolina Commission ordered that allowances would be allowed to *accrue a carrying charge* on those allowances acquired for the purpose of achieving Phase II compliance. *This carrying charge is analogous to the accrual charge allowed on cost of work in progress (CWIP).* As a result, this action favors allowances. The North Carolina Commission also ordered that no portion of the net investment in allowance inventory would be considered by the Commission for inclusion in the rate base prior to the year 1999.

Lack of Action: N/A

CASES:

Re Least Cost Integrated Resource Planning in North Carolina -- 1992, Dkt. No. E-100 Sub 64, Aug. 19, 1992 (N.C.U.C.).

OHIO

Rate of Return: In 1991, the PUC stated "one of the criteria for determining the appropriate return on equity will be the applicant's efforts in pursuing allowance market opportunities, including those...in the futures and options markets."

Cost recovery rules: Ohio guidelines allow utilities to pass on to their customers, via the *energy fuel cost (EFC) mechanism*, allowance trading costs and earnings. Since emissions allowance trading will be a dynamic process, the PUC believed Ohio's existing EFC mechanism provided the appropriate venue for review of emissions allowance plans, transactions and recovery of costs associated with emission allowance transactions.

Treatment of benefits/costs from allowance transactions: *Gains or losses* on emission allowance transactions are to *flow through to ratepayers on an energy (KWH) basis*. This holds unless the utility created the allowance(s) using below-the-line resources or unless some other Commission-approved recovery mechanism applies. Examples include the proceeds, from the sale of allowances produced by the installation of flue gas scrubbers, could be used as a credit against the cost of the plant equipment, thereby reducing the cost of the project which would be fair to the ratepayers who pay through base rates for the project, in which case a different allocation of gains or losses may apply.

Although Ohio has had numerous cases mentioning the treatment of allowance revenue, Dayton Power and Light, Centerior Energy, Cincinnati Gas and Electric, and Monongahela Power, the Ohio Public Utilities Commission has yet to issue a generic order. Questions concerning the treatment of allowances have primarily been dealt with case by case because the PUC would like to integrate the treatment of allowances into utilities' Environmental Compliance Plan and as part of their Integrated Resource Plan.

Action mandating or favoring a particular option: *Allowances:* Case No. 91-2155-EL-COI was the first formal docket to investigate issues ranging from accounting treatment of allowances to utility participation in allowance futures markets to regulatory treatment of allowance pooling. This case resulted in guidelines that reflected the PUC's encouragement that each Ohio utility develop its own allowance incentive program. The Ohio guidelines also recognize *that all reasonable trading mechanisms such as sales, purchases, futures, leases, and options are legitimate forms of trade and should be evaluated on an equal basis*. As a result, utilities are allowed to participate in the allowance futures and options markets as a hedging strategy for planned allowance purchases. *Gains and losses in the futures and options markets associated with a "reasonable" hedging strategy for planned allowance purchases will be treated the same as those associated with planned purchases for regulatory*

purposes. In addition, gains and losses in the futures and options markets will include any credits and costs – including carrying costs – incurred to open, maintain, and close the futures and options hedging position. Finally, if a utility fails to implement "reasonable" policies, practices, and procedures concerning allowance sales, revenue may be imputed to the utility for rate-making purposes, the guidelines state.

Ohio guidelines do not condone speculative transactions with ratepayer money, but will permit a utility to retain the gains and suffer the losses if shareholder funds are used (i.e., below the line transactions). Furthermore, advanced approval is required before a utility uses shareholder resources and moving allowances between banks funded from above the line and those from below the line without prior PUC approval.

Ohio guidelines also *require each utility to submit an allowance trading status report.* This report is to be submitted with its EFC audit and must document actual and foregone transactions, allowance holdings, an explanation for why a particular bank level has been maintained, and any adverse experience they have had in trading with other states or encounters with other regulatory authorities. For good cause shown, a utility can file for confidential treatment of specific information.

Capital: In an attempt to support Ohio coal, the Ohio state legislature passed a law that allowed a *tax rebate* to consumers of Ohio coal. In addition, the Ohio Coal Development Office actively encourages Ohio coal producers to do more SO₂ allowance bundling in their utility fuel bids. In other high-sulfur coal states, such as Kentucky, bundling is more common.

Pre-approval of particular compliance plans: In Case No. 91-2011-EL-FOR, the Ohio Public Utilities Commission has ordered the state's eight major electric utilities to address CAAA90 compliance plans, including environmental and economic externalities and economic dispatch, as part of integrated resource plans for their 1992 long-range forecast reports.

In 1991, the Ohio General Assembly passed Senate Bill 143 to aid Ohio utilities in their efforts to comply with the act. The law offers a *voluntary* procedure for obtaining commission *pre-approval* of compliance plans, provided that the plans ensure that Ohio coal is used to the "maximum extent possible," unless such action cannot be justified as "least cost." In addition, *the Ohio law provides for tax advantages for the use of Ohio coal and for liberalized treatment of compliance-related CWIP.* Although this procedure is voluntary, the Ohio commission still maintained the right to conduct a prudence review of the compliance plans of any utility for a unit subject to Phase 1. Furthermore, pre-approval did not protect a utility against all potential disallowances of compliance costs, but it would mean that the compliance plan would be deemed to constitute a prudent management decision.

However, previously, in Case No. 90-660-EL-FOR, the Ohio PUC rejected American Electric Power's preliminary determination that switching to low-sulfur coal at its Gavin plant was the least-cost solution to CAAA90 compliance. In fact, in telling the utility to keep the scrubbing option open, it was evident that the PUC was wary of approving a compliance plan that might prove at odds with Ohio's policy favoring the use of local coal whenever possible. The PUC advised AEP to consider over-compliance in Phase One and the trading and banking of excess allowances as a compliance option. *The PUC was clearly leaning toward scrubbers.*

Lack of Action: No action taken.

CASES:

Re Ohio Power Co., 127 PUR4th 329 (Ohio P.U.C.1991).

Compliance Preapproval Statutes: Senate Bill 143.

OKLAHOMA**Rate of Return:** No Action**Cost recovery rules:** No Action**Treatment of benefits/costs from allowance transactions:** No Action

Action mandating or favoring a particular option: Oklahoma had passed a law requiring coal-fired electric utilities operating in the state to burn a mixture containing at least 10 percent Oklahoma-mined coal. On January 22, 1992, the United States Supreme Court struck down the law, describing it as "protectionist and discriminatory" (*Wyoming v. Oklahoma*, No. 112, Orig., 112 S.Ct. 789, 129 PUR4th -- (U.S.1992)).

Pre-approval of particular compliance plans: No Action**Lack of Action:** N/A**CASES:** None

OREGON

Rate of Return: No Action

Cost recovery rules: No Action

Treatment of benefits/costs from allowance transactions: No Action

Action mandating or favoring a particular option: No Action

Pre-approval of particular compliance plans: No Action

Lack of Action: No action taken.

CASES:

Re Idaho Power Co., 132 PUR4th 560 (Or.P.U.C.).

PENNSYLVANIA

Rate of Return: Allowances in inventory will earn a return in the same way as other rate base investments.

Cost recovery rules: Emission allowances will be valued at *original costs* for rate-making purposes. *Allowances allocated by the EPA have a "zero" cost; while purchased allowances will be valued at their full purchase price inclusive of broker fees or at fair market value if purchased as part of equipment, fuel or power-purchase transactions.* Emissions allowances will be *treated as fuel inventory* for rate-making purposes and will be included in rate base consistent with the Commission's practice for operating inventory items. Emission allowances are energy-related power production expenses during the period in which they are used. Allowances may be recoverable through the utility's *energy cost rate (ECR)*.

Treatment of benefits/costs from allowance transactions: *Gains or losses* on emissions allowance transactions will be flowed through to customers in the *ECR* on an *energy (KWH) basis* unless such gains or losses are related to non-utility expenses or investments and are recorded below-the-line.

Action mandating or favoring a particular option: The Pennsylvania Public Utility Commission's order dictates that *costs associated with pollution control technologies* can be considered a non-revenue producing investment, and *recovered through the construction work in progress (CWIP) clause* only if any benefits from the sale of allowances related to that technology are passed on to the utility customers. Two counter market orders have also been passed: the prohibition of purchasing allowance options and futures and the prohibition of cost recovery incentives as part of a utility's compliance plan.

Pre-approval of particular compliance plans: The Pennsylvania General Assembly passed Act 27, 66 Pa. C.S.A. Section 530 (Supp. 1992) (signed into law by Governor Robert P. Casey, Apr. 17, 1992), under which each public utility had to submit to the Commission its Phase I compliance plans. Furthermore, the utility has the option to request approval of its Phase I and/or Phase II plans.

To gain pre-approval, certain criteria must be fulfilled. First, a utility's cost of compliance must be recoverable. Therefore, approved compliance plans would include costs which are "reasonable and prudently incurred" as determined in a ratemaking or other proceeding. The costs will also "represent investment in flue gas desulfurization devices, coal technologies, or similar facilities *designed to maintain or promote the use of coal*, including facilities which intermittently or simultaneously burn natural gas with coal."

If a compliance plan meets these conditions, pollution-control facilities are considered non-expense reducing, non-revenue producing investments. However, the cost associated with pollution-control technologies can only be considered a non-revenue producing investment, if "any benefits" from the sale of allowances related to that technology are passed onto the utility's customers. In other words, *if the above conditions are met, the utility may include construction-work-in-progress (CWIP) in its rate base for recovery through customer rates.* However, even if a CWIP surcharge were approved, any dollars collected through the surcharge would be subject to refund in the event that any of the scrubber costs were later found to be unreasonable, imprudent, or otherwise ineligible for rate recovery.

Lack of Action: No action taken.

CASES:

Re West Penn Power Co., Dkt. Nos. P-910511, P-910512, March 19, 1992 (Pa.P.U.C.).

Re West Penn Power Co., 123 PUR4th 1 (Pa.P.U.C.1991).

Re West Penn Power Co., 123 PUR4th 3 (Pa.P.U.C.1991).

TENNESSEE**Rate of Return:** No Action**Cost recovery rules:** No Action**Treatment of benefits/costs from allowance transactions:** No Action

Action mandating or favoring a particular option: The Tennessee Valley Authority (TVA) chose to go with a technology-based compliance plan with scrubbers as the key element in its strategy. Although the TVA system contained some low, average and high SO₂ emitters, TVA had three sources that emitted more SO₂ than the remaining 23 units (of the 26 total Phase I affected units) combined. As a result, any compliance strategy TVA came up with had to address one of the "big three" plants (Cumberland 1 & 2, Gallatin 1, 2, 3, & 4, and Paradise 3).

TVA's found that the least-cost solution was to install scrubbers at Cumberland. TVA's decision was based on the economics and availability of current commercial scrubber technology. Its compliance plan is based on early overall compliance and includes allowances from the EPA bonus pool, emissions dispatching, and building up a large allowance bank for internal use. That approach helped mitigate the uncertainties of the allowance market, but TVA does intend to take advantage of the market when the opportunity presents itself. In essence, TVA would draw down on its bank of allowances and defer compliance expenses in Phase II. TVA believed that compliance with Phase II was going to be expensive – so expensive that the prospect of operating and maintaining six nuclear units appeared, at least in 1993, to be an economically sensible choice.

Pre-approval of particular compliance plans: No Action**Lack of Action:** N/A**CASES:** None

UTAH

Rate of Return: No Action

Cost recovery rules: No Action

Treatment of benefits/costs from allowance transactions: No Action

Action mandating or favoring a particular option: No Action

Pre-approval of particular compliance plans: No Action

Lack of Action: No action taken.

CASES:

Re PacifiCorp, 136 PUR4th 306 (Utah P.U.C.1992).

VIRGINIA

Rate of Return: No Information

Cost recovery rules: No Information

Treatment of benefits/costs from allowance transactions: No Information

Action mandating or favoring a particular option: No Information

Pre-approval of particular compliance plans: No Information

Lack of Action: 1986 tax credit for using Virginia-mined coal has been updated.

CASES: None

WASHINGTON

Rate of Return: No Information

Cost recovery rules: No Information

Treatment of benefits/costs from allowance transactions: No Information

Action mandating or favoring a particular option: No Information

Pre-approval of particular compliance plans: No Information

Lack of Action: No action noted

CASES: None

WEST VIRGINIA**Rate of Return:** No Action

Cost recovery rules: In a case involving Monongahela Power Co. and Potomac Edison Co., the Commission explained that rate-making for allowance sales revenues should track the same deferred treatment approved for project-related capital costs. The two utilities had argued that because of uncertainty surrounding what they would do with future allowances, and how they would be taxed, the companies should not be required to dedicate future revenues from allowance sales (if any) to ratepayers. Any offsetting revenues that the utilities might receive from sales of emissions allowances would be deferred and subject to passthrough to ratepayers.

Treatment of benefits/costs from allowance transactions: No Action

Action mandating or favoring a particular option: West Virginia regulators have decided that the magnitude of capital costs required to comply with the Clean Air Act justifies a departure from traditional rate-making. The West Virginia Public Service Commission has allowed Monongahela Power Co. and Potomac Edison Co. to *recover capital costs through a construction work in progress (CWIP) account*, with an accrued allowance for funds used during construction (AFUDC). The timing for current recovery of project capital costs was described as "very liberal" for the utilities – they would not need to file full rate cases to begin a current recovery of capital costs on project CWIP. Instead, the plan allowed them to implement new CWIP rates each year on July 1, reflecting a March 31 investment base: a significant acceleration of rate base recognition over traditional rate-making (including accrued allowance for funds used during construction).

Pre-approval of particular compliance plans: No Action**Lack of Action:** N/A**CASES:**

Re Monongahela Power Co., 130 PUR4th 1 (W.V.P.S.C.1991).

Re Monongahela Power Co., Case No. 91-231-E-CN, December 23, 1991, 129 PUR4th -- (W.Va.PSC).

WISCONSIN

Rate of Return: No Action

Cost recovery rules: No Action

Treatment of benefits/costs from allowance transactions: Although the Wisconsin Public Service Commission (PSC) ruled that *all net proceeds* from the sale of SO₂ allowances under CAAA should *accrue to ratepayers* (Docket No. 05-EP-6), the PSC did not rule out any sharing in benefits.. Since ratepayers already pay for the measures taken to accumulate surplus SO₂ allowances, it was decided that the benefits of any allowance transactions should accrue to them. In one WP&L rate case the PSC directed that any revenue from emission allowance sales to be credited to customers in the year the allowances are designated for use. However, if a Wisconsin utility proposes to keep a portion of revenues derived from allowance transactions it will be required to show benefits for ratepayers.

Action mandating or favoring a particular option:

Pro-Allowances: The PSC has rejected the amortization of emission allowance revenues over a designated time period, enabling utilities to earn a return on the unamortized balance. However, the PSC, on a case-by-case basis, would review proposals calling for deferred accounting for allowance revenues that would permit a utility to smooth out revenue swings caused by large, infrequent sales. The PSC, however, decided that such deferred accounting not only would exclude a return on the unamortized balance, but would require interest accrual on this balance to later be returned to ratepayers.

Sales: The PSC decided that joint owners of generating plants should not be granted the right of first refusal on SO₂ allowance sales from jointly-owned units. This means that if a co-owner of a plant desires to sell allowances, his partners are not automatically entitled to have the first shot at purchasing them. Net revenues from allowance transactions are credited entirely to the ratepayers and are accounted for in materials and supplies in the net investment rate base.

Anti-Allowances: Accounting: Wisconsin makes specific the accounting treatment of allowance transactions between a utility and its holding company or one of its affiliates. Allowance trades between utilities and affiliates in a holding company system require that services or assets provided by a utility to an affiliate be priced at the greater of cost or fair market value.

Anti-Allowances: Disclosure of transactions: The PSC ordered WP&L to disclose the price per allowance that the utility charged to the two purchasing utilities, as well as the total dollar value of each contract with TVA and Duquesne. The PSC ordered WP&L to provide the Wisconsin Citizens' Utility Board with a copy of any information submitted to the

Environmental Protection Agency regarding the sale of allowances and with copies of all data that the utility filed with the PSC. However, the PSC stopped short of requiring WP&L to disclose the full contract. The PSC's action was in response to a petition to force WP&L to release the entire contract so it could determine whether or not the specific terms are beneficial to ratepayers. Currently, a utility is required to notify the Commission after a trade has been made including price, quantity, and the second party(s) involved. The Commission explicitly states no aspect of the sale will be permitted to be confidential unless revealing the second party would cause harm to the ratepayers.

Anti-Allowances: Annual Reserve Banks: The PSC has required each utility to set up an annual reserve bank. The purpose is to prevent a utility from selling too many allowances and finding itself short in future years.

Pro-fuel: SO₂ Incentive: The Wisconsin Public Service Commission has approved a rate-making incentive mechanism for sulfur-dioxide emissions reduction. This incentive is aimed at giving WP&L a monetary reward for curtailing SO₂ releases. Under the plan, the utility will be entitled to \$160 for every ton of SO₂ it does not emit, based on a target release figure associated with a test-year estimate of electric generation. The \$160/ton reward is the nominal current market price for emission allowances. Both the reward and a symmetric penalty for emitting more or less than the target amount are capped at \$ 1.5-million. At \$160/ton, this translates to a variance from the target of 9,375 tons in either direction. To implement the incentive, the PSC ordered WP&L to increase its revenue requirement up front by \$ 1.5 million. If the company reduces emissions by the maximum amount, it is already compensated under this approach. If WP&L manages only to hit the target figure, it must refund the \$1.5 million award to its customers. If, however, the company fails to meet the target by the maximum amount, it must refund an additional \$1.5 million, or \$3.0 million overall. SO₂ emissions reductions that lie between these extreme limits are figured accordingly.

The SO₂ incentive idea was proposed by WP&L as a check on the fuel procurement incentive – a related proposal also adopted by the PSC. Without the SO₂ incentive, WP&L could possibly have created a financial windfall for itself that was unintended by other incentive approaches. In particular, under the fuel-procurement incentive measure, the PSC ordered WP&L to reduce its 1995 revenue requirement, as determined by cost-of-service ratemaking, by \$4 million. This reduction was ordered because the commission concluded that WP&L's fuel costs were too high. At the same time, the PSC eliminated its "fuel rule" that in Wisconsin has been used instead of the more conventional fuel-adjustment clause. The fuel rule required utilities in the state to estimate their fuel expenses. If utilities reduced their

fuel costs below the target, up to 3%, they could keep the savings. If fuel costs rose above the target, shareholders had to cover the expense. The \$4 million upfront reduction of WP&L's revenue requirement under the new fuel-procurement incentive, coupled with the elimination of the fuel rule, meant that whatever savings WP&L can secure it can now keep for shareholders. To the extent the company can beat the fuel-cost estimate built into rates, it benefits; to the extent it cannot beat the estimate, it loses. The fuel-procurement incentive, absent the related SO₂ incentive, could have allowed WP&L to switch to less expensive, high-sulfur coal to benefit shareholders. The SO₂ incentive discourages the company from taking that approach.

Neutral: State Environmental Statute: Wisconsin Act 296, which went into effect on May 2, 1986, ordered the state's five major electric utilities to limit their SO₂ by 1993 on an average corporate basis. The act was expected to reduce utility SO₂ emissions from over 500,000 tons in 1980 to less than 250,000 tons by 1993.

Pre-approval of particular compliance plans: No Action

Lack of Action: N/A

CASES:

Re Advance Plans for Construction of Facilities, 05-EP-6, Sept. 15, 1992 (Wis.P.S.C.).