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PROFILES IN ELECTRICITY ISSUES:

FUEL ADJUSTMENT CLAUSES

OVERVIEW

Fuel often is the biggest cost item in an electric utility company's operating expense. Fuel costs can fluctuate due to a change in the price and mix of fuel used to generate electricity. When prices increase, the utility's earnings may decrease; when prices fall, customers may be paying more for electricity than they should. Each change affects the cost of providing service to a customer.

ELCON believes that a fuel adjustment clause (FAC), if it is used at all, only should serve the purpose of reflecting changes in customers bills of the variable, energy-related costs of fuel or purchased power. The objective is to keep the utility financially whole, to provide proper price signals to customers, and to reflect actual cost causation principles. **A fuel adjustment clause is designed for a specific purpose, and should never be a substitute for a formal rate case.** Instead, it should act as an interim measure for adjusting rates to reflect changes in a large and highly volatile expense item (fuel) so that under/over recovery of the expense does not lead to financial deterioration or excess profits for the utility.

This *Profile* explains the appropriate use and application of a fuel adjustment clause. It includes an *Appendix* that summarizes the key features of fuel clauses in effect in 27 states.

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FUEL ADJUSTMENT CLAUSES

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**Summary of ELCON's Position
on Fuel Adjustment Clauses**

1. The use of a fuel adjustment clause to adjust rates is only appropriate when:
 - ▶ The cost of fuel is a substantial proportion of the utility's overall revenue requirement;
 - ▶ Fuel costs are expected to be volatile and the utility has little control over their magnitude; and
 - ▶ The absence of a fuel clause could result in substantial financial instability to the utility and significant over (or under) charges to ratepayers.
2. *A fuel adjustment clause is designed for a specific purpose, and should never be a substitute for, or a means to avoid a formal rate case. A fuel adjustment clause should include only the cost of fuel and the variable cost of purchased power. It should not be used as a "catch-all" for recovering nonfuel costs, such as the costs associated with demand-side management (DSM) programs or pollution abatement costs, including the cost of SO₂ emission allowances.*
3. Fuel handling costs should not be included in any fuel adjustment, nor should fuel transportation costs if the utility has control over them.
4. A fuel adjustment clause should be applied to all rates that a utility offers, except where the rate already provides for explicit fuel cost recovery.

5. Fuel adjustment clauses should recognize the same cost-of-service distinctions that should be used in base rates. Only variable, energy-related costs should be allocated and recovered from customers on a kilowatt-hour (kWh) basis. Fixed, demand-related costs should be allocated and recovered from customers in a kilowatt (kW) demand charge, or, where rates do not include a separate demand charge, converted into a per kilowatt-hour value based on the customer or customer class' contribution to peak demand.
6. The fuel adjustment should vary by time-of-use if fuel costs vary appreciably by time-of-use.
7. If a fuel adjustment clause is used, all fuel costs should be included in the fuel adjustment and none should be included in base rates.
8. The level of the fuel adjustment should change as often as is required to provide timely and accurate recovery of fuel costs.
9. A fuel adjustment clause should be designed to minimize the disincentive for a utility to prudently manage its costs. A utility has a basic responsibility to:
 - ▶ Prudently enter into and manage its fuel and purchase power contracts;
 - ▶ Economically dispatch its generating units;
 - ▶ Properly manage its interchange power arrangements;
 - ▶ Ensure that the costs of fuels purchased from an affiliated supplier will be no greater than similar fuel costs from other suppliers; and
 - ▶ Operate its generating units at high standards of performance so as to avoid the need for more expensive replacement power.
10. There should be nothing automatic about passing on fuel expenses, or any other expense, to utility ratepayers without adequate regulatory oversight. States that have fuel adjustment clauses should hold periodic hearings in order to review the reasonableness of procurement practices and power plant performance, and to reconcile collected revenues with actual costs.

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INTRODUCTION

A fuel adjustment clause (FAC) is a tariff provision which permits a change in rates to occur as a result of a change in the cost of fuel or a portion of purchased power expenses. These changes occur without the utility filing a formal rate case. Many regulatory commissions also do not conduct evidentiary hearings to consider how these and other elements of a utility's cost-of-service may have changed. These clauses are designed to eliminate the lag between the filing of a case and a Commission decision. With a fuel adjustment clause, increases or decreases in specific cost items are quickly reflected in rates.

Fuel adjustment clauses are in effect in almost all states. Some states do not use fuel adjustment clauses because local statutes prohibit their use or because their use is deemed unnecessary. The Appendix of this *Profile* summarizes the key features of fuel clauses in effect in 27 states.

HISTORY OF FUEL ADJUSTMENT CLAUSES

Fuel adjustment clauses were first used during World War I due to fluctuating coal prices that resulted from labor shortages at the mines. A war-related shortage of rail cars also contributed to price volatility. After the war, FACs became a widespread regulatory practice, although their actual use declined as the economy returned to normal. Interest in the FAC picked up again in World War II and during the inflationary period that followed that war.[1]

In more recent times, use of the FAC substantially increased beginning in 1973 with the Arab Oil Embargo which dramatically raised prices for fuel oil used to generate electricity. Oil prices suffered a second "shock" with the Iranian Revolution which began in 1978. The insecurity of oil and natural gas supplies and price uncertainties were further exacerbated by government price and allocation controls.[2] By 1977, revenues recovered through the FAC from electric and gas ratepayers exceeded annual rate case increases by over 450%.[3]

THE APPROPRIATE USE OF A FUEL ADJUSTMENT CLAUSE

A fuel adjustment clause, if it is used at all, should serve the purpose of reflecting changes in customer bills of fuel and variable purchased power costs. The objective is to keep the utility financially whole, to provide proper price signals to customers, and to reflect cost causation principles. A fuel adjustment clause is appropriate only when the following conditions are met:

1. The cost of fuel (and/or purchased power) is a substantial portion of the utility's overall revenue requirement.
2. These costs are expected to be volatile and the utility has little control over their magnitude.
3. Due to the magnitude, volatility, and degree of control over these costs, the absence of a fuel adjustment clause could result in substantial financial instability to the utility, and significant over (or under) charges to ratepayers.

A fuel adjustment clause is designed for a specific purpose, and should never be a substitute for a formal rate case. Instead, it should act as an interim measure for adjusting rates to reflect changes in a large and highly volatile expense item (fuel) so that underrecovery or overrecovery of the expense does not lead to financial deterioration or excess profits for the utility.

A fuel adjustment clause also should not be used as a "catch-all" for recovering nonfuel costs. Inclusion of cost items that do not satisfy the magnitude, volatility and control criteria may allow a utility to collect extra revenues that it might not be entitled to collect had the increased costs been examined in the context of the utility's overall operations, as would occur in a general rate case proceeding. For example, allowing a utility to collect demand-related costs associated with purchased power through the fuel clause totally ignores the offsetting revenues which the utility receives by selling the additional power that justified the purchased power transaction in the first place.

A fuel adjustment mechanism should never be a vehicle for passing on costs associated with nonfuel items or activities such as demand-side management program costs (including "lost revenues"), pollution control costs (including the cost of SO₂ emission allowances), or purchased power demand charges, as some have proposed. The normal regulatory process, where a Commission reviews all costs for appropriateness, is the vehicle for passing on costs other than fuel costs to ratepayers.

COMPONENTS OF A FUEL ADJUSTMENT CLAUSE

A fuel adjustment clause should clearly state all expense items which can be included in the clause. A failure to clearly state the allowable components, and how they are to be determined, may lead to regulatory disputes and the incurrence of unnecessary costs by the utility, the Commission or ratepayers.

■ Fuel Costs

The items included in a clause should only be those fuel (and fuel-related) items which satisfy the conditions noted above. The costs contained in FERC Accounts 501 ("fuel"), 518 ("nuclear fuel expense"), 536 ("water for power"), and 547 ("fuel used in other power generation") are proper elements for inclusion in a fuel adjustment clause. However, costs in these accounts should only be included up to the point at which the utility takes ownership of the fuel. It is appropriate to exclude the cost of fuel handling because it is largely controllable by the utility. It also can be argued that many utilities and utility holding companies have substantial control over transportation costs, and that they should be excluded.

■ Purchased Power Costs

Most utilities engage in a variety of purchase power transactions with other utilities. Types of purchases include economy energy purchases, emergency purchases, short-term firm purchases, and long-term firm purchases. Economy and emergency purchases typically are priced on a per kilowatt-hour (kWh) basis. Short-term and long-term firm purchases typically are priced using both an energy charge and a demand charge. Purchased power costs frequently are addressed in a fuel adjustment clause, but only the variable (or energy-related) portion of those costs should be included in the clause and recovered from customers on a per kilowatt-hour basis.

Any demand-related purchased power expenses should be excluded from the fuel adjustment clause calculation. These are fixed costs and are a substitute for the construction of generation facilities. Inclusion of them in a cost recovery clause could inappropriately allow a utility to avoid regulatory scrutiny of its planning process.

However, if any demand-related purchased power costs are allowed to be tracked, they should not be included in the fuel adjustment clause. Such costs should be tracked by a separate adjustment mechanism and allocated to customer classes on a demand basis. These costs should be recovered on a per kW basis from customers who are on tariffs that include demand charges, or converted into a per kilowatt-hour value based on the customer or customer class' contribution to peak demand, in rates that do not include a separate demand charge.

It is not appropriate to allocate and charge fixed, demand-related expenses (such as purchased power) on a per kilowatt-hour basis since the costs are a function of demand and not of energy consumption. Recovery on a kilowatt-hour basis is inconsistent with proper cost causation principles, provides incorrect prices signals, may result in the cross-subsidization of one rate class by another, and may lead to over/under collection of revenues.

■ Power Sales

Many utilities also sell power for resale. Two different approaches have been taken in the fuel adjustment clause for the treatment of off-system power sales. The credit approach includes all fuel costs in the fuel adjustment clause calculation, but subtracts the revenues received from power sales in determining the net fuel adjustment. Typically, the revenues

subtracted only are those associated with the energy-related revenues. This approach is most commonly followed when power sales are a relatively small proportion of total fuel transactions.

The second approach is to identify the fuel costs associated with the power sales, and subtract these costs from total fuel costs in developing the fuel adjustment clause. This approach requires more precision since it is necessary to develop a reasonable estimate of the fuel costs associated with particular off-system sales transactions. However, this approach provides a more accurate calculation of the fuel costs associated with service actually supplied to the utility's retail customers.

APPLICATION OF A FUEL ADJUSTMENT CLAUSE

■ Rates Covered

A fuel adjustment clause should be applied to all rates that a utility offers, except any rate that provides for explicit fuel cost recovery, such as so-called "real-time" rates or certain interruptible rates that are based on incremental costs. If a utility has any flat monthly rates (like street lighting rates), where the monthly bill is based upon estimated usage, it is appropriate to add to the fixed rate a tracker which recognizes fuel cost changes using the kilowatt-hour usage assumed in determining the fixed monthly rate. Failure to apply the fuel clause to all applicable classes is discriminatory.

■ Cost-of-Service Distinctions

It is just as important to recognize cost-of-service distinctions in designing a fuel adjustment clause as it is in designing base rates. First, and as noted above, this means that only variable costs should be allocated to customer classes and collected from customers on a kilowatt-hour basis. Fixed demand costs (if any) should be allocated to customer classes and collected from customers on a kW capacity basis, either directly in the demand component of multi-part rates, or, where rates do not include a separate demand charge, by converting these costs into a per kilowatt-hour value based on the customer or customer class' contribution to peak demand. Generally, this would be in base rates and the FAC would only reflect variable kWh charges.

Second, cost-of-service principles dictate that the line losses imposed by the various customer classes should be reflected in the per unit fuel adjustments. This means that customers taking service at high voltage levels will have a lower fuel adjustment than customers taking service at lower voltage levels in order to recognize the different level of costs incurred to serve these customers.

Third, rates to all consumers of electricity should be based on costs actually incurred by utilities in providing the service to the customer or customer class. Cost-of-service principles dictate that if fuel costs vary appreciably by time-of-use, the fuel adjustment should also vary by time-of-use. Only when rates are set correctly can customers efficiently minimize their total energy costs. For administrative ease, the time-of-use distinctions should correspond to the time-of-use periods contained within the applicable tariff schedule.

■ Fuel Clause and Base Rates

Some utilities split variable fuel costs between base rates and the FAC. ELCON opposes this treatment. If a fuel adjustment clause is used, all variable fuel costs should be included. No variable fuel costs also should be included in base rates. Customers receive a better price signal about what costs are driving their utility bill if all fuel expenses are separately stated on their bill and none are mixed in with base rates.

Better customer understanding also is promoted if all fuel expenses are included in the fuel adjustment. For example, assume that a utility's fuel cost in a particular period is 2.0¢ per kWh, and that in the next period it increases to 2.1¢ per kWh. If all fuel costs are included in the fuel adjustment charge, the customer can easily see that fuel costs have increased by 5%. To illustrate the confusion that occurs when only part of the fuel cost is in the fuel adjustment clause, assume that the same utility has 1.8¢ per kWh of its fuel cost included in base rates, and that the fuel adjustment clause only tracks differences from this base level. When total fuel costs are 2.0¢ per kWh, the adjustment factor will be 0.2¢ per kWh. When total fuel cost increases to 2.1¢ per kWh, the adjustment factor increases to 0.3¢ per kWh. Unless a customer knows exactly how the rates are constructed, the impression left may be that fuel costs have increased by 50%.

Thus, only when all fuel costs are included in the fuel adjustment charge will a customer see the actual changes in fuel prices. A customer may not engage in the most efficient energy usage behavior without such information.

THE USE OF FORECASTED OR HISTORICAL COSTS

Charges passed through the fuel adjustment can either be based on forecasted values with after-the-fact true ups or reconciliations, or can be based on historical costs as recorded on the utility's books. The current trend is toward the use of forecasted values.

The primary appeal of forecasted fuel costs is that, in theory, the charges billed to customers will more closely match the costs being experienced by the utility. Of course, there will be errors in any forecast, and provisions must be made to true up or reconcile amounts collected with amounts actually incurred. Care must be taken to assure that after-the-fact true ups are based on actual historical usage and not on current usage.

Another advantage of a forecasted approach is that "normal" operating levels for generating units are assumed. Forecasted values will exclude abnormal outages with the result that customers are not automatically charged with high replacement fuel costs as often is the case when historic values are used. This provides protection to the customer, since the utility then must subsequently justify the reasonableness of the expenses incurred in connection with, e.g., an unexpected outage of a large nuclear generating unit.

CONDITIONS FOR COST RECOVERY IN THE FUEL CLAUSE

A properly designed fuel adjustment clause will state the conditions under which a utility is entitled to recover fuel costs from its ratepayers through an adjustment mechanism. These conditions should include requiring the utility to:

1. Prudently enter into and manage its fuel contracts.
2. Economically dispatch its generating units and conduct performance tests on each generating unit to assure proper economic dispatch.
3. Prudently enter into and manage all of its purchased power contracts.
4. Properly manage its interchange power arrangements.
5. Ensure that the costs of fuels purchased from an affiliated supplier, which will be allowed to be passed on to ratepayers, will be no greater than similar fuel costs from unaffiliated suppliers. Some utilities own and operate minemouth facilities which use fuels for which no competitive market exist. Depreciation expenses associated with such mining operations and fuel handling must be recovered in base rates and not through the FAC.
6. Operate its generating units at a reasonable output level, so the necessity to purchase expensive off-system power (or to generate using higher cost units) to replace power which should have been provided by its own efficient resources, is minimized. This is particularly important for nuclear power plants which were for the most part, justified on the basis of high capacity factors. This requirement may take the form of a performance incentive factor.

FREQUENCY OF THE FUEL ADJUSTMENT

The level of the fuel adjustment should change as often as is required to provide for timely recovery of fuel costs, but changes should not occur more often than monthly. If fuel costs are expected to be very volatile, fuel adjustment changes should be made monthly. On the other hand, if fuel costs are expected to be relatively stable, it is not necessary to change the fuel adjustment as frequently, or even to keep the FAC. It is more appropriate to have semi-annual or annual adjustments under the circumstances of relatively stable fuel prices.

A fuel adjustment clause should be designed to minimize the disincentive for utilities to prudently manage their costs. Making the continued application of a fuel adjustment clause contingent on reasonable and prudent management is an effective means of accomplishing this objective. This safeguard should never be compromised by statutory limits on a Commission's ability to judge the prudence of a utility's fuel procurement practices.

COMMISSION OVERSIGHT

As with any cost that is passed on to utility ratepayers, regulatory oversight is mandatory. States that have fuel adjustment clauses should hold hearings as frequently as necessary to avoid overcollection or undercollection of revenues from customers, to reconcile collected revenues with actual costs, and to review the reasonableness of procurement practices and power plant performance. There should be nothing automatic about passing on fuel expenses, or any other expense, to utility ratepayers without Commission oversight and regulation.

OTHER APPROACHES FOR REDUCING FUEL-RELATED RISKS

There are other, and arguably, often more efficient fuel procurement practices that can reduce utility and ratepayer exposure to fuel price volatility and supply uncertainties. Examples of such practices include using the energy futures market to reduce the price risk for oil and natural gas, and diversifying a utility's fuel contract mix. Utilities should be encouraged to adopt such business practices that may benefit ratepayers.

OTHER AUTOMATIC RIDERS

In an effort to capture costs that are not appropriately included in a fuel adjustment clause, some utilities propose the implementation of separate adjustment clauses. These include riders to recover nuclear plant decommissioning expenses; certain demand-side management (DSM) costs, such as administrative costs, rebates and lost revenues; and costs incurred in complying with pollution control regulations. In some instances, utilities have been allowed more or less automatic rate adjustments for these cost items. Allowing a utility to increase rates for changes in only selected cost items without examining the level of earnings or the reasonableness of the expenditures, usurps the regulatory process and may lead to excessive rates.

If allowed, all such riders should recognize the same cost-of-service distinctions that should be used in base rates. Only variable, energy-related costs should be allocated and recovered from customers on a kilowatt-hour (kWh) basis. Fixed, demand-related costs should be allocated and recovered from customers on a kilowatt (kW) demand basis, either in a demand charge in multi-part tariffs, or, where rates do not include a separate demand charge, by converting these costs into a per kilowatt-hour value based on the customer or customer class' contribution to peak demand.

ENDNOTES

- [1] Kevin A. Kelly, Timothy M. Pryor and Nat Simons, Jr., Electric Fuel Adjustment Clause Design, (Columbus, OH: National Regulatory Research Institute, December 1979), pp. 3-4.
- [2] U.S. Department of Energy, United States Energy Policy 1980-1988, (Washington, DC: Government Printing Office, October 1988), p. 6.
- [3] Kelly et al., Electric Fuel Adjustment Clause Design, p. 5.