CHAPTER 2

2. ALTERNATIVE RATE (STRUCTURE) CHANGES INCLUDING NO ACTION AND THE PROPOSED ACTION(S)

2.1 Rate Change Alternatives

Several scenarios have been developed that represent and bound the potential range of alternatives and effects on consumer classes that could result from rate discussions with distributors. As described earlier in the Background section, potential rate actions are of two types: (1) a *rate change* action that would reallocate cost recovery among different customer classes, but not increase total TVA revenue compared to current rates, and (2) a *rate adjustment* that would increase the overall level of TVA revenues. The latter is not part of the proposed action here, but is being evaluated because it is reasonably foreseeable that such an adjustment would occur at the same time as the proposed rate change and could contribute to cumulative environmental impacts. The anticipated rate adjustment could increase average wholesale rates by 6.1 percent.

The action alternatives of this EA reflect alternatives for changes to the wholesale rate structure that would reallocate costs assigned to various customer classes. The proposed rate changes would all retain end-use wholesale billing for electricity, but would revise pricing to more accurately reflect today's costs and trends in market competition. In developing the proposed changes, TVA has taken into account: (1) each end-use classification's revenue requirement as determined from a fully allocated average embedded cost-of-service study using projected data for fiscal year 2003; (2) analysis of market trends; (3) TVA's competitive position in the power market (i.e., analysis of rates charged by other power suppliers); and (4) acceptability of customer impacts (i.e., rate "sticker shock"). TVA's initial proposals are described in TVA's letter sent to distributors on February 20, 2003 (Appendix A), and the specific action alternatives now being considered in this EA. The proposed types of changes, as considered and bounded by the various action alternatives of this EA, are summarized below.

The result of the proposed action alternatives for rate change is that residential and commercial users would pay more for power, while firm industrial prices would decrease or remain the same, depending upon how end-user classes are defined (both commercial and industrial are currently classified as general power). These proposals are all revenue neutral for TVA (i.e., they redistribute costs but produce no additional revenue).

Reallocation of Costs and New Manufacturing End-Use Classifications - Through the action alternatives, TVA has proposed that costs be reallocated through revised end-use wholesale base demand and energy charges and corresponding revisions to the resale charges. TVA is proposing that this reallocation be facilitated by the creation of "manufacturing" end-use rate classifications. These manufacturing classifications would be applicable, instead of the corresponding general power classification, for sales to customers with contract demands greater than 50 kW engaged in substantial manufacturing activity. The resale rate schedules proposed for these new classifications would have the same overall structure as the general power schedules, but with different demand and energy charges and availability provisions.

The effects of the alternatives on rates charged to end-use customer classes are shown in Table 2-1. For example, under Alternatives B, C, and D, charges set for the manufacturing customers above 50 kW would average 2 to 2.2 percent at wholesale below what these customers currently pay after the combined effect of the rate change and rate adjustment are factored. As reflected in the alternatives shown in Table 2-1, possible variations under consideration include (1) establishing manufacturing rate schedules, but having the kW threshold at a level greater than 50 kW to reduce the administrative burden of identifying qualifying customers; (2) setting the manufacturing rate at a level that results in zero change versus current rates after the rate adjustment instead of a 2 percent wholesale decrease; and (3) foregoing the new manufacturing rate classes and implementing a 2 percent at wholesale or no change effect on the basis of current demand-based rate classes rather than on type of customer activity. The alternative rate changes considered in this EA reflect the range of potential outcomes on these issues. The action that TVA ultimately takes may not correspond exactly to a particular alternative; however, the alternatives are designed to bound the range of TVA decision options, singularly or in combination, for the important issues and the impacts of those options.

Other Proposed Actions That Involve No Direct or Indirect Effects on the Environment - In addition to the cost reallocation, TVA is considering other actions in conjunction with the rate structure change. These involve the continuation of TVA's long-standing practice of allocating the hydro system benefits to the residential class and conforming the wholesale billing demand used for the GSA and TSA classifications to the metered billing demand used for the other general power classifications. These actions are more fully described in Appendix A. None of these actions have the potential for environmental impacts and are elements of each of the rate structure change alternatives.

2.1.1 No Action Alternative

For implementation of the No Action Alternative, the current rates charged to different end-use customers would remain the same (Table 2-1); the current rate structure classes (i.e., defined classes and groups of end-use customers) would be maintained; and there would be no rate adjustment.

2.1.2 Alternative A – Maintain Existing Rate Structure, Apply Rate Adjustment Across the Board

This alternative, is similar to the No Action Alternative in that there would be no rate (structure) change, but the anticipated 6.1 percent firm rate adjustment would, as for previous rate adjustments, be applied to the current rate structure (Table 2-1). From the standpoint of potential rate structure changes, Alternative A and the No Action Alternative are materially the same. Under Alternative A, the changes related to the hydro benefit and billing demand for GSA and TGSA would occur, but these are relatively trivial in nature. TVA has created Alternative A and has assessed it separately from the No Action Alternative largely to more easily be able to contrast the cumulative effects of increasing its electric power rates concurrent with a rate structure change.

Table 2-1. Wholesale Rate Impacts for Customer Classes Resulting from the Various Rate Structure Alternatives (Expressed as Percent Change From Current Wholesale Rates)

	Rate Classification					
	Manufacturing Separated			Current Rate Classes (GSA-based)		
	Rate Classes	Rate Restructure	Combined Effect*	Rate Classes	Rate Restructure	Combined Effect*
No Action Alternative	Not Applicable			Residential	0.0 %	0.0 %
				GSA1 & 2	0.0 %	0.0 %
				GSA3 & Above	0.0 %	0.0%
Alternative A - Across the Board	Not Applicable			Residential	0.0 %	6.1 %
				GSA1 & 2	0.0 %	6.1 %
				GSA3 & Above	0.0 %	6.1 %
Alternative B – Equal Effect on Residential & Commercial Customers, 2% Decrease for Manufacturing Customers	Residential	1.7 %	7.9 %	Residential	2.6 %	8.9 %
	Non-manufacturing	1.7 %	7.9 %	GSA1 & 2	2.6 %	8.9 %
	Manufacturing	-7.6 %	-2.0 %	GSA3 & Above	-7.6 %	-2.0 %
Alternative C - Minimum Effect on Business Customers, 2% Decrease for Manufacturing Customers	Residential	3.6 %	9.9 %	Residential	3.6 %	9.9 %
	Non-manufacturing	-0.5 %	5.6 %	GSA1 & 2	1.3 %	7.5 %
	Manufacturing	-7.6 %	-2.0 %	GSA3 & Above	-7.6 %	-2.0 %
Alternative D - No Manufacturing Classifications	Residential	2.2 %	8.4 %	Residential	2.2 %	8.4 %
	Non-manufacturing	-1.0 %	5.0 %	GSA1 & 2	2.2 %	8.4 %
	Manufacturing	-3.7 %	2.2 %	GSA3 & Above	-5.7 %	0.0 %
Alternative E – No Manufacturing Classification Under 1,000 kW	Residential	1.2 %	7.4 %	Residential	Not Applicable	
	Non-manufacturing	1.2 %	7.4 %	GSA1 & 2		
	Manufacturing	-5.2 %	0.6 %	GSA3 & Above		

* Combined effect of rate change and rate adjustment (increase) of 6.1 percent (see discussion in Rate Change Alternatives section of this chapter).

2.1.3 Alternative B - Equal Impact on Residential and Commercial Customers, 2 Percent Net Decrease to Manufacturing/Large General Power Customers

Under this alternative (which utilizes the rate change process), TVA may either maintain the current nonresidential (general service series) rate classes or establish new, separate manufacturing classes. This alternative yields a decrease in wholesale power costs to manufacturing (industrial) customers and an equal increase in cost of power for residential and commercial customers. With creation of a new manufacturing class, the rate change effects, absent any rate adjustment, are a 7.6 percent wholesale decrease to manufacturing over 50 kW and a 1.7 percent wholesale increase to residential and commercial. With a 6.1 percent wholesale rate adjustment, the combined effects versus current rates are a 2 percent wholesale decrease on manufacturing and a 7.9 percent wholesale increase on residential and commercial.

If current rate classes are maintained, the rate change effects are a 7.6 percent wholesale decrease on rate classes for customers over 1,000 kW, and a 2.6 percent wholesale increase on residential and general service classes up to 1,000 kW demand. After the 6.1 percent across-the-board wholesale adjustment, the net effects are an 8.9 percent wholesale increase on residential and general power up to 1,000 kW, and a 2 percent wholesale decrease on general power (manufacturing and commercial) over 1,000 kW.

2.1.4 Alternative C – Minimum Effect on "Business" Customers, 2 Percent Decrease to Manufacturing/Large General Power Customers

For this alternative (again using the rate change process) TVA also may either maintain the current nonresidential (general service series) rate classes or establish new separate manufacturing classes. This alternative rate change yields a decrease in power costs to manufacturing customers comparable to that of Alternative B, but a greater portion of the offsetting costs would be allocated to residential customers, thereby lessening the potential effects on "business" customers in general. Creation of the manufacturing class version yields rate change effects of a 7.6 percent wholesale decrease to manufacturing over 50 kW, a 3.6 percent wholesale increase to residential, and a 0.5 percent wholesale decrease to commercial customers. After the 6.1 percent across-the-board wholesale adjustment, the combined effects versus current rates are a 2 percent wholesale decrease on manufacturing, a 9.9 percent wholesale increase on residential, and a 5.6 percent wholesale increase on commercial rates.

If current rate classes are maintained, the rate change effects are a 7.6 percent wholesale decrease on rate classes for customers over 1,000 kW, a 3.6 percent wholesale increase on residential, and a small 1.3 percent wholesale increase on general service classes up to 1,000 kW demand. After the 6.1 percent across-the-board wholesale adjustment, the net effect is a 9.9 percent wholesale increase on residential, a 2 percent wholesale decrease on general power (manufacturing and commercial) over 1,000 kW, and a 7.5 percent wholesale increase on general power rate classes up to 1,000 kW demand.

2.1.5 Alternative D - No Manufacturing Classifications

This alternative (also a rate change) assumes the rates are structured so that if the contemplated rate adjustment is implemented there would be no change to customers over 1,000 kW, whether manufacturing or nonmanufacturing. This alternative results in a more modest reduction in rates charged to manufacturing or industrial customers than those of Alternatives B and C, and an intermediate effect on rates charged to residential

and commercial customers (effect is more dependent upon whether or not the new rate classes are implemented).

If the new manufacturing class is created, the rate change effects are an overall 3.7 percent wholesale decrease to manufacturing customers of all demand levels, a 2.2 percent wholesale increase to residential, and a 1.0 percent wholesale decrease to commercial (of all demand levels). If TVA proposes and decides to implement a 6.1 percent wholesale rate adjustment, the combined effects versus current rates would be a 2.2 percent overall wholesale increase to manufacturing, an 8.4 percent wholesale increase on residential, and a 5.0 percent wholesale increase on commercial. On the current rate class version, the rate change effects are a 5.7 percent wholesale decrease on rate classes for customers over 1,000 kW, and a 2.2 percent wholesale increase on residential and general service classes up to 1,000 kW demand.

2.1.6 Alternative E – No Manufacturing Classification Under 1,000 kW

This alternative resulted from discussions with TVA power distributors. Because the alternative was so similar to the other alternatives, it was subjected to a simplified analysis to ascertain that associated impacts would be similar to, and bounded by, the impact analyses performed for the range of earlier proposed alternatives. This alternative (also a rate change) assumes the rates are structured so that if the contemplated rate adjustment is implemented: 1) there would be manufacturing classifications and schedules established for customers over 5,000 kW; 2) manufacturing-only customers over 5,000 kW would see a rate decrease; 3) credits (in lieu of new schedules) would be applied to customers between 1, 001 and 5, 000 kW; change; and 4) no manufacturers allocation would be applied to customers whose contract demands do not exceed 1,000 kW.

With the establishment of new manufacturing classes for customers with demand of 5,000 kW, and the use of credits for customers between 1,001 and 5,000 kW, the rate change effect is an overall (weighted average) wholesale decrease of 5.2 percent for all manufacturers over 1, 000 kW. For non-manufacturing and residential customers the rate change would result in a wholesale increase of 1.2 percent. If TVA proposes and decides to implement a 6.1 percent wholesale rate adjustment, the combined effects versus current rates would be an overall 0.6 percent wholesale increase (no effect) for manufacturers over 1,000 kW and a 7.4 percent wholesale increase for nonmanufacturing and residential customers.

2.2 Comparison of Alternative Scenarios - Summary of Environmental Impacts

A comparison of environmental effects for the bounding rate structure alternatives is presented in Table 2-2. The alternative rate structures would result in only insignificant impacts to the environment. All the rate structure alternatives have only small, insignificant (although positive) effects on the overall economy in the TVA power service area, when compared to the base case (Alternative A) with no rate increase. Rate structure changes favoring manufacturing (or greater than 1,000 kW customers) are more beneficial to the Valley's economic development than the base case. When the rate restructuring is considered in combination with a rate adjustment (increase) also under consideration by TVA, the rate restructuring lessens the potential effects of the rate adjustment to a small degree. Again, when considered cumulatively, rate structure changes favoring manufacturing (or greater than 1,000 kW customers) are more beneficial to the overall economic development of the TVA power service area than an across-the-board rate increase.

Table 2-2. Comparison of Environmental Effects for Bounding Wholesale Rate Structure Alternatives

Resource Areas	Alternatives					
	No Action Alternative	**Alternative A – Across the Board (No rate restructuring)**	**Alternative B – Equal Effects on Residential and Commercial, 2 Percent Manufacturing Decrease**	**Alternative C – Minimum Effect to Business, 2 Percent Manufacturing Decrease**	**Alternative D – No Manufacturing Classifications**	**Alternative E – No Manufacturing Classification Under 1,000 kW**
Socioeconomics	No significant impacts. Continuation of current conditions and trends for population, personal income, employment, and regional economy.	No effects due to rate restructuring. No significant impacts.	Small positive effects on population, employment, personal income, and regional economy. Intermediate positive effect of the alternatives.	Similar to Alternative B. Most positive effect of the alternatives.	Similar to Alternative B. Least positive effect of the alternatives.	Similar to Alternative B. Only very slightly more positive effect than Alternative D
Energy Use	No significant impacts. Continuation of present conditions and trends (growth) in energy usage.	No significant impacts due to rate restructuring.	No significant impacts. Impacts on various customer classes offset each other. Largest increase in annual power sales predicted for this alternative (without rate increase).	No significant impacts. Similar overall impact on power sales as Alternative B. Greatest impact on residential power sales. Intermediate increase in annual power sales predicted for this alternative.	No significant impacts. Impacts on various customer classes offset each other. Least effect on annual power sales predicted for this alternative.	No significant impacts. Overall impact on power sales is intermediate between those of Alternatives C and D
Air Resources	No significant impacts. Continuation of current conditions and trends in air quality for the region.	Minor, but insignificant, probably unidentifiable, improvements in air quality of the region.	Minor, insignificant negative impact to air quality of the region. Considered with a rate increase, minor	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.

Resource Areas	Alternatives					
	No Action Alternative	**Alternative A – Across the Board (No rate restructuring)**	**Alternative B – Equal Effects on Residential and Commercial, 2 Percent Manufacturing Decrease**	**Alternative C – Minimum Effect to Business, 2 Percent Manufacturing Decrease**	**Alternative D – No Manufacturing Classifications**	**Alternative E – No Manufacturing Classification Under 1,000 kW**
			improvement to air quality of the region.			
Water Resources	No significant impacts. Continuation of current conditions and trends for water quality.	Similar impacts to No Action Alternative.	No significant impacts. Minor, negligible energy production-related effects.	Impacts similar to Alternative B.	Impacts similar to Alternative B.	Impacts Similar to Alternative B.
Land Use	No significant impacts. Continuation of current conditions and trends for land use in the power service area.	Minor, insignificant effects only. No additional greenfield or brownfield development predicted. No new TVA generating or transmission facilities.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.
Solid & Hazardous Waste Generation	No Significant impacts. Continuation of current conditions and trends in solid waste disposal and hazardous waste reductions.	Insignificant changes to generation and handling of residential, commercial, industrial, and TVA-generated solid or hazardous wastes.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A

2.3 TVA's Preferred Alternative

Under all action alternatives, TVA would implement the changes related to GSA and TGSA billing demand and those related to the continued implementation of the hydro benefit allocation policy. With respect to the cost allocation that is the focus of this EA and based on comments from and discussions with TVA's distributors, TVA staff currently prefers Alternative E with the creation of separate manufacturing classifications and schedules for customers having contract demands of more than 5,000 kW, the use of credits (in lieu of new schedules) to reallocate costs to manufacturers with contract demands from 1,001 kW to 5,000 kW, and no manufacturers' allocation or classification for customers whose contract demands do not exceed 1,000 kW. TVA's analyses and experience indicate that larger manufacturers and larger consumers of energy are more mobile than most "business" or commercial customers. In addition, many such manufacturing plants must compete with other manufacturing plants (of the same product kind) outside the Valley, often within their own company. If capacity for manufacturing exceeds demand for a product, then the plants with the higher operating costs are more likely to shut down or cut back first. TVA must maintain competitive firm power prices so that it can aid in maintaining current manufacturing plants and jobs in the power service area.

On the other hand, smaller manufacturers and nonmanufacturing or commercial customers primarily compete in a much smaller, more local market. A department store, for instance, competes with other department stores in the same area selling the same or similar products. Costs for power are the same for all local competitors and are passed through to customers. Service industries such as hospitals are in a similar situation.

To the extent the effects can be determined, TVA concludes that the potential environmental and socioeconomic effects of any and all of the action alternatives are minimal and insignificant. Under Alternative E, there would be pricing benefits for the proposed manufacturing classes of customers over 5,000 kW and the customers between 1,001 and 5,000 kW who received credits. However, these benefits would be economically very small, when considered either in the context of the Valley economy as a whole or as to any specific industrial sector. TVA anticipates that the effect of the proposed rate structure change would be to help in slowing and possibly stopping the loss of manufacturing jobs in the Tennessee Valley. This is important for maintaining the Valley state economies but is not expected materially to increase manufacturing jobs or outputs.

2.4 Summary of Commitments and Monitoring Measures

All potential environmental impacts of implementing any of the action alternatives are expected to be insignificant. However, TVA's integrated natural resource management programs regularly monitor the conditions of many different natural resources. These monitoring programs are expected to continue and will enable TVA to identify changes to the physical environment that may unexpectedly result from the proposed rate changes. Because there are a panoply of environmental laws and regulations that are designed to safeguard against unacceptable environmental harm, TVA anticipates that with its ongoing monitoring activities, it should readily be able to make additional changes to its electric power rate structure to offset or prevent any adverse environmental impacts before they reach unacceptable levels. No additional mitigation or monitoring measures beyond those already in existence have been identified.