DEMAND-SIDE MANAGEMENT TESTS

TOTAL RESOURCE COST

Definition: The Total Resource Cost Test measures the net costs of a demand-side management program as a resource option based on the total costs of the program, including both the participants' and the utility's costs.

Formulas:

$$\textbf{BENEFITS}_{\textbf{TRC}} \sum_{t=1}^{N} \frac{\textbf{Net Utility Avoided Supply Costs}_t}{(1 + d)^{t-1}}$$

$$\textbf{COSTS}_{\textbf{TRC}} \sum_{t=1}^{N} \frac{\textbf{Program Administrator Costs}_t + \textbf{Net Participant Cost}_t}{(1 + d)^{t-1}}$$

PARTICIPANT TEST

Definition: The Participant Test is the measure of the quantifiable benefits and costs to the customer due to participation in a program. Since many customers do not base their decision to participate in a program entirely on quantifiable variables, this test cannot be a complete measure of the benefits and costs of a program to a customer.

Formulas:

$$\textbf{BENEFITS}_{\textbf{PT}} \sum_{t=1}^{N} \frac{\textbf{Bill Reductions}_t + \textbf{Incentives Paid}_t}{(1 + d)^{t-1}}$$

$$\textbf{COSTS}_{\textbf{PT}} \sum_{t=1}^{N} \frac{\textbf{Participant Costs}_t}{(1 + d)^{t-1}}$$

UTILITY COST TEST

Definition: The Utility Cost Test measures the net costs of a demand-side management program as a resource option based on the costs incurred by the program administrator (including incentive costs) and excluding any costs incurred by the participant. The benefits are similar to the TRC benefits. Costs are defined more narrowly.

Formulas:

$$\textbf{BENEFITS}_{\textbf{UCT}} \sum_{t=1}^{N} \frac{\textbf{Net Utility Avoided Supply Costs}_t}{(1 + d)^{t-1}}$$

$$\textbf{COSTS}_{\textbf{UCT}} \sum_{t=1}^{N} \frac{\textbf{Program Administrator Costs}_t + \textbf{Incentives}_t}{(1 + d)^{t-1}}$$

RATEPAYER IMPACT MEASURE TEST

Definition: The Ratepayer Impact Measure (RIM) test measures what happens to customer bills or rates due to changes in utility revenues and operating costs caused by the program. Rates will go down if the change in revenues from the program is greater than the change in utility costs. Conversely, rates or bills will go up if revenues collected after program implementation are less than the total costs incurred by the utility in implementing the program. This test indicates the direction and magnitude of the expected change in customer bills or rate levels.

Formulas:

$$\textbf{BENEFITS}_{\textbf{RIM}} \ \sum_{t=1}^{N} \ \frac{\textbf{Net Utility Avoided Supply Costs}_{t}}{(1+d)^{t-1}}$$

$$\textbf{COSTS}_{\textbf{RIM}} \ \sum_{t=1}^{N} \ \frac{\textbf{Program Administrator Costs}_{t} + \textbf{Incentives}_{t} + \textbf{Net Lost Revenue}_{t}}{(1+d)^{t-1}}$$

Where t is equal to the year and d is equal to the discount rate.