

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Proposed amendment of Rule 25-17.0021 F.A.C., Goals for Electric Utilities.

DOCKET NO. 20200181

Filed: February 15, 2021

SOUTHERN ALLIANCE FOR CLEAN ENERGY'S
POST WORKSHOP COMMENTS

Southern Alliance for Clean Energy (“SACE”) thanks the Commission for the opportunity to submit written comments that build on our oral comments at the January 14, 2021 first rulemaking workshop in the above captioned docket.

Summary

This rulemaking process provides the Commission with a timely and administratively efficient opportunity to address outdated practices that are no longer serving the Commission, or the state’s families and businesses. We endorse the move to revise the above goal setting rule. As the Commission reviews this decades-old rule, the top priority must be addressing the state’s economic screening practices, specifically the 2-year payback screen and reliance on the Rate Impact Measure (“RIM”) Test when determining cost effectiveness. No other state relies upon these screens for setting energy savings goals. The clearest evidence that these practices no longer meet the intent or the letter of the Florida Energy Efficiency and Conservation Act (“FEECA”) statute was the filing of zero or near-zero goals by many of the state’s largest utilities in the most recent goal setting cycle.

At a minimum the rulemaking must address the following three updates to Commission practices: 1) injecting real-life data on how the Commission addresses so-called free ridership in setting goals; 2) uniquely analyzing and balancing system benefits and rate / bill impacts when setting goals and approving efficiency programs; and 3) providing meaningful levels of investment in low-income efficiency programs with a consistent metric across all utilities. We have addressed these issues by providing type-and-strike language revisions that comport with modern industry standard practices.

Additionally, given the high degree of interest in this docket, and because this rule is being revisited for the first time in almost 30 years, a subsequent workshop(s) is needed. Preferably the next workshop would be Commission-led and provide a forum to examine issues raised in this round of comments, including attention to modern industry practices used for energy efficiency in other jurisdictions and how they might be adapted for Florida. Therefore, SACE requests at least one additional subsequent workshop.

Introduction

We strongly support a review of the Commission's goal setting rule. After all, it is well established that energy efficiency is the cheapest, quickest and cleanest way to meet electricity demand, but efficiency resources have been substantially underutilized in Florida. Moreover, the economic benefits of energy efficiency programs are vast. These benefits accrue system-wide through cost savings from reduced fuel use and the deferral of new power plants, while also assisting individual families and businesses by cutting energy waste and driving down power bills. Efficiency is also a job creator, employing 120,000 Floridians, and drives economic development by keeping energy dollars in local communities.¹

The first FEECA rulemaking workshop was held on January 14th, 2021 and had significant and broad participation from local governments, businesses, community-based organizations, customers and technical experts. Common themes running through the stakeholder comments were that there are multiple economic benefits to using energy smarter through energy efficiency, including helping hardworking families and businesses reduce their power bills, while creating jobs, and investing in the cheapest, quickest and cleanest way to meet energy needs. The other common thread was that it's time to finally modernize the economic screening practices that Florida relies upon when setting energy savings goals. While these practices may have been useful in the distant past, they are now producing energy savings goals that are landing Florida near the bottom of state ranking. The state's underfunded efficiency programs greatly limit customer access to efficiency program offerings that are common throughout the country. This rulemaking provides a unique opportunity for the Commission to reform practices that no longer serve Floridians or the Commission.

Background

While we welcome a review of the Commission's goal setting rule, the revised rule draft issued by Commission staff with the Notice of Development of Rulemaking on December 15, 2020, failed to directly address core issues that have produced volatility in past FEECA goals setting proceedings. For context, we provide a brief history of the events that predated the establishment of this docket and the filing of these comments.

By all accounts, the primary driver in the establishment of this docket was the filing of zero or near-zero energy savings goals by many of the state's largest electric utilities in the most recent FEECA goal setting cycle. The frustration on the Commission was clear during the November 5, 2019 Agenda Conference. Commissioner Brown, for instance, stated "it just didn't make sense to me to have zero goals. It's like running a marathon at zero miles per hour. You're never going to get to the finish line."² Commissioner Clark agreed that the FEECA process "does need some substantive changes to it," and that "everything we're going to be doing from this point in is

¹ Advanced Energy Economy, 2020 Florida Advanced Energy Jobs Fact Sheet, at <https://info.aee.net/florida-2020-advanced-energy-jobs-fact-sheet>

² Transcript of Agenda Item No. 8, November 5, 2019, p. 15.

going to take...a completely different strategy than we've used in the past.”³ The Commission then explicitly rejected the utilities' proposed goals and ordered that the goals for the 2020-24 timeframe (adopted in the previous goal setting cycle) remain in place.

On July 7, 2020 the staff requested the establishment of a rulemaking workshop to address tension in the process, to which staff proposed ending the bifurcation between the goal setting and the program approval proceedings. Yet, the bifurcated nature of the goal setting and program approval processes is not what generated concern among commissioners at the November 5th, 2019 Agenda Conference. The plan approval process had yet to be initiated at that point. On August 22, 2020, and September 15, 2020, SACE filed its first and second request for a scoping workshop(s) in order to bring parties together to discuss the issues that might be addressed in this docket. We received no formal response to the requests. On December 15, 2020, Commission staff filed its draft rule with a very narrow scope limited to merging the goals setting and program approval phases. The draft rule misses the mark because it does not address the issues that led to the proposed zero and near-zero goals in 2019. Nor is it administratively efficient to open a rulemaking and fail to address the outdated 2-year payback screen and RIM Test in place as the primary basis for cost effectiveness. Without addressing these issues, future FEECA proceedings will likely be as volatile and contentious as ever; while resolving these issues will bring a much needed improvement by way of greater predictability, consistency, and better overall efficiency performance in the state.

It's important to note that the Legislature in 1980 recognized in statute the importance of both controlling the growth rates of electricity consumption and peak demand while specifying that “it is critical to utilize the most efficient and cost-effective demand-side renewable energy systems and conservation systems in order to protect the health, prosperity, and general welfare of the state and its citizens.”⁴ The Legislature also provided that the statute should be liberally construed to meet the statute's objectives.⁵ Yet, FEECA goal setting proceedings have in effect been heavily skewed towards reducing peak demand, while actually creating barriers to cutting energy waste through ill-matched procedures for determining cost effectiveness. As a matter of prudent energy resource investment, both demand and energy reductions should be pursued.

The FEECA statute was amended in several important respects in 2008. The Legislature at that time recognized the need to ramp up efficiency as a resource and provided the Commission a path forward to increase energy savings by applying different criteria for determining cost-effectiveness. Primarily, it provided that the Commission must consider “the costs and benefits to the general body of ratepayers as a whole, including utility incentives and participant contributions.”⁶ The Commission never initiated rulemaking to implement this provision. The Commission likewise never initiated rulemaking to implement the amendment to the FEECA statute that gave the Commission authority to allow investor-owned utilities an additional return on equity for meeting annual percentage of load growth through energy efficiency conservation measures.⁷ The utilization of economic screens, such as the 2-year payback and the RIM Test,

³ *Id.* at 17-18.

⁴ Section 366.81, Fla. Stat.

⁵ *Id.*

⁶ Ch. 227, 2008 Fla. Laws 46.

⁷ *Id.* at 47.

penalize measures that capture meaningful energy savings, thereby choking off efforts to control the growth rates of electricity consumption. This is neither consistent with Florida Legislature’s intent or the letter of the FEECA statute.

Current FEECA Practices are Outdated and Directly Result in Poor Performance

Like other clean energy resources, energy efficiency technologies, policies, and practices in the United States are currently highly dynamic. To account for this, regulators across the country periodically modernize their approach to energy efficiency. The Florida Commission’s past reliance on cost effectiveness tests and screens that are decades old largely explains why Florida performs poorly compared to the rest of the country on utility energy efficiency savings.

SACE’s recently published *Third Annual Energy Efficiency in the Southeast* report illustrates where Florida stands compared to the region and national average⁸ for energy savings as a percentage of annual retail sales.

2019 ENERGY SAVED AS A % OF ANNUAL SALES

UTILITY	EFFICIENCY AS % OF PRIOR YEAR SALES
52 LARGEST UTILITIES AVERAGE (2018)	1.03%
NATIONAL AVERAGE	0.67
TAMPA ELECTRIC	0.44 %
JACKSONVILLE ELECTRIC	0.40 %
ORLANDO UTILITIES COMMISSION	0.35 %
SOUTHEAST AVERAGE	0.26 %
DUKE ENERGY FLORIDA	0.19 %
FLORIDA AVERAGE	0.12 %
FLORIDA POWER AND LIGHT	0.05 %
GULF POWER	0.04 %

In 2019, energy efficiency savings for the Southeast region was 0.26% of total retail electric sales, more than twice Florida’s 0.12% savings. The national average is 0.67%, but this includes a multitude of smaller electric companies, co-ops, and municipal utilities that do little or no efficiency. In an analysis of the nation’s 52 largest electric utilities, the American Council for an Energy Efficiency Economy (“ACEEE”) determined that the average annual efficiency savings for major utilities was 1.03% in 2018. This serves as a more appropriate point of comparison for understanding the relationship between Florida’s efficiency rules and utility performance. Notably, the national average for large utilities is over 20 times higher than two of the major investor-owned utilities governed by FEECA. In ACEEE’s 2020 State Scorecard, Florida was near the very bottom of the state rankings, at number 45 out of 50 as seen in the table below.⁹

⁸ Southern Alliance for Clean Energy, *Energy Efficiency in the Southeast*, 2020.

⁹ ACEEE, *State Energy Efficiency Scorecard*, October 2020, p. 32.

State	2019 net incremental savings (MWh)	% of 2018 retail sales	Score (7 pts.)
Rhode Island	190,159	2.51%	7
Massachusetts	1,199,409	2.25%	7
Maryland	1,327,930	2.14%	7
Vermont	117,289	2.12%	7
California†	4,447,063	1.74%	6
Illinois	2,061,135	1.44%	5
Michigan	1,474,105	1.41%	4.5
New York	1,939,971	1.29%	4
District of Columbia	139,560	1.23%	4
Connecticut	349,772	1.21%	4
Hawaii†	110,774	1.19%	4
Minnesota†	729,734	1.06%	3.5
Oregon†	523,590	1.06%	3.5
Maine†	127,786	1.03%	3.5
Washington*†	880,976	0.98%	3
Arizona*†	763,855	0.97%	3
Colorado†	535,056	0.95%	3
Ohio*†	1,447,594	0.95%	3
New Hampshire*†	103,111	0.93%	3
Idaho†	210,216	0.88%	3
Nevada†	277,469	0.73%	2
Pennsylvania	1,068,377	0.72%	2
Iowa†	360,095	0.70%	2
Utah	201,850	0.65%	2
North Carolina	890,940	0.64%	2
Wisconsin	455,118	0.64%	2
Missouri*†	515,242	0.63%	2

State	2019 net incremental savings (MWh)	% of 2018 retail sales	Score (7 pts.)
Arkansas	311,006	0.63%	2
Indiana*†	650,482	0.62%	2
New Jersey†	469,560	0.62%	2
New Mexico	134,209	0.56%	1.5
Montana†	82,161	0.55%	1.5
South Carolina*†	426,283	0.52%	1.5
Oklahoma*†	288,417	0.45%	1
Nebraska†	74,428	0.24%	0.5
South Dakota†	30,359	0.24%	0.5
Georgia†	322,918	0.23%	0.5
Wyoming†	38,484	0.23%	0.5
Texas†	826,884	0.19%	0.5
Delaware	22,447	0.19%	0.5
Kentucky*†	135,912	0.18%	0.5
Mississippi	79,460	0.16%	0
West Virginia	52,221	0.16%	0
Louisiana†	118,281	0.13%	0
Virginia*†	133,322	0.11%	0
Florida†	251,346	0.11%	0
Tennessee	16,727	0.02%	0
North Dakota†	3,002	0.01%	0
Alabama*†	8,647	0.01%	0
Alaska*†	247	0.00%	0
Kansas*†	265	0.00%	0
U.S. total	26,925,246	0.70%	
Median	277,469	0.64%	

Specific Proposed Changes to the FEECA Rules

The Commission's historic reliance on the 2-year payback screen and Test is now outdated and out of step with the rest of the country. Nowhere else are these practices used for efficiency goal setting, and the result is unnecessarily and predictably low efficiency performance. As a result energy efficiency resource investments are not being properly evaluated against supply resources, which ultimately leads to higher utility system costs that are then passed on to all customers.

Replacing the 2-year Payback Proxy Screen with Real-World EM&V Data

If the intent of the rulemaking is to bring real-life data to inform the Commission in setting goals, then reforming the 2-year screen practice must be a top priority. The 2-year screen is used by the Commission as a proxy for customers that will adopt energy efficiency measures absent a utility program - the so-called freeriders. But this practice is badly outdated and not consistent with modern industry standard practices. We have previously cited numerous problems with this practice in goal setting proceedings before the Commission, which include:

1. The utilities have provided no empirical evidence or data to support the notion that all efficiency measures with a payback of less than two years are, or would be, routinely purchased or installed by customers in the absence of utility programs.
2. The argument that customers would adopt measures with short paybacks because only because it is economically rational ignores the underlying premise for utility sponsored efficiency programs: that market barriers often preclude customers from investing in efficiency measures that are cost-effective.
3. Even in cases in which there are no non-financial market barriers, some customers will not buy measures with 2-year paybacks because they have a more immediate, shorter -focussed time frame - such as lower income customers.
4. It was revealed in the last FEECA goals setting proceeding that in developing estimates of technical potential – the foundation for both economic and achievable potential – the utilities' consultant, Nexant, already accounted for naturally-occurring efficiency. Thus, the potential effects of free ridership were already excluded from the estimates of savings potential before the application of the 2-year payback screen. The 2-year payback screen is, therefore, a **redundant adjustment for free riders**, is not necessary, and its use should be discontinued.
5. The 2-year screen also results in elimination of many of the most common and cost effective measures that are typically included in utility efficiency programs, including many that would provide substantial benefit to low-income customers such as efficient lighting, room air conditioners, duct repair, and programmable thermostats.

The Commission should replace the 2-year screen proxy in the FEECA rules with a requirement for independent evaluation, measurement, and verification as the basis for identifying free ridership. Moreover, it should ensure that adoption of efficiency measures absent utility program offerings are counted only once when analyzing efficiency potential for goal setting.

The negative effects of the 2-year screen is to arbitrarily eliminate the most impactful and lowest cost efficiency measures - energy savings that are critical to hard working families. As SACE cited in its testimony of Witness Grevatt in the most recent FEECA goals setting cycle, the 2-year payback screen has the result of depressing economic potential by **80% for Gulf, 139% for Tampa Electric and over 150% for FPL**. Put simply, eliminating the 2-year screen results in roughly a doubling – or more – of cost-effective savings potential. This scale of difference is simply too large to ignore by continuing to rely upon a factually unproven proxy screening practice.

The Commission deserves to be fully informed when setting FEECA efficiency savings goals. Evaluation, measurement, and verification (EM&V) is a critical protocol for getting accurate data upon which the utilities and the Commission can rely in future FEECA cycles. Our type-and-strike revisions to Rule 25-17.0021 reflect modern, industry standard practices in EM&V. The specific language we have included was directly adapted from policies in North and South Carolina governing Duke Energy’s efficiency programs in those states. While there are administrative costs associated with EM&V, they would be far more than made up by the many millions of dollars of reduced utility system costs and increased customer savings that would result. Moreover, after relying on an unverified proxy screening practice for decades, it is past time that the Commission had this valuable real-world information when setting FEECA efficiency savings goals.

Distinguishing Between Cost Benefit Analysis and Rate Impact Analysis

Analysis of both cost effectiveness and rate impacts are important considerations when setting utility efficiency savings goals and approving program plans. But the two are neither synonymous nor can they be accurately conflated into a single analytic score. Rather, each must be evaluated for its own distinct purpose, and the two should ultimately be balanced when the Commission sets annual efficiency goals.

In 2020, the DOE-funded National Energy Screening Project published the National Standard Practice Manual for Benefit-Cost Analysis of Distributed Energy Resources (“NSPM”), which updated and expanded on its earlier 2017 publication on energy efficiency resources. The NSPM was informed by nearly 50 highly experienced efficiency professionals from a wide cross section of state and federal government agencies, utility regulatory commissions, utility companies, think tanks, non-profits, national laboratories, and efficiency program implementers and analysts. Its explicit purpose “is to help guide the development of jurisdictions’ cost-effectiveness test(s) for conducting benefit-cost analyses (“BCAs”) of distributed energy resources (“DERs”),” including energy efficiency. The NSPM is the most comprehensive, modern, and authoritative resource on the subject of benefit cost analysis and it is for this reason that we reference it frequently in the following sections.

According to the NSPM, the purpose of benefit cost analysis is to determine whether investments in efficiency resources are warranted based on their “benefits and costs to customers and the utility system as a whole.”¹⁰ Importantly, the purpose of cost effectiveness analysis for demand

¹⁰ National Energy Screening Project, “National Standard Practice Manual for Benefit-Cost Analysis of Distributed Energy Resources,” 2020 pg. A-2.

side resources is to evaluate *future spending* to determine which investments are expected to have benefits that exceed costs.

By contrast, the focus of rate impact analysis is not whether future efficiency expenditures are cost effective. Instead it evaluates whether there will be an impact on rates. Depending on how such analysis is conducted, rate impact analysis can also inform considerations of equity between energy efficiency program participants and other customers. In other words rate impact analysis answers: “How much will utility [efficiency] investments impact rates for one group of customers compared to another.”¹¹ But unlike cost effectiveness analysis, rate impacts largely stem from *existing costs* being spread over fewer retail sales. ***But those costs are not attributable to the efficiency program expenditures.*** Because these ‘sunk’ utility system costs would be recovered regardless of any future spending on efficiency, they should therefore not be treated as a cost for future energy efficiency investments.

The NSPM is clear, conflating cost effectiveness consideration with rate impacts fails to provide useful information for either one.

The RIM Test is Fatally Flawed for Setting Goals

The RIM Test is ineffective - both as a tool for evaluating cost benefit or for analyzing rate impacts. The NSPM indicates this is because “The Test attempts to answer two different questions in a single analysis, which conflates the two questions and thus does not answer either one.”¹²

Moreover, even if a RIM score is less than 1.0, the test doesn’t indicate the magnitude of rate impact, nor does it necessarily mean there would even be any rate increase at all. Without this, there is no way to compare and balance the scale of utility system benefits against the corresponding rate impact to determine whether efficiency investments are justified. The following explanations from the NSPM are instructive:

“Application of the RIM Test can lead to perverse outcomes. The RIM Test can lead to the rejection of significant reductions in utility system costs to avoid what may be insignificant impacts on customer rates. For example, a DER [distributed energy resource] might offer millions of dollars in net benefits under the UCT (i.e., net reductions in utility system costs) but be rejected as not cost-effective if it fails the RIM Test. It may well be that the actual rate impact would be so small as to be unnoticeable. Rejecting such large reductions in utility system costs to avoid *de minimus* rate impacts is not in the best interests of customers overall.”¹³

“Lastly, the RIM Test results can be misleading. For a DER investment with a RIM benefit-cost ratio of less than one (1.0), the net benefits (in terms of present value dollars) will be presented as negative benefits. A negative net benefit implies that the DER investment will increase costs. However, as described above, the costs that drive the rate impacts under the RIM Test are not new incremental costs associated with DERs. They

¹¹ *Id.*, pg. A-2.

¹² *Id.*, pg. A-4.

¹³ *Id.*, pg. A-4.

are existing costs that are already in current electricity or gas rates. Any rate increase caused by lost revenues would be a result of recovering those existing fixed costs over fewer sales, not as a result of incurring new costs. However, utilities and others frequently present their RIM Test results as negative net benefits, implying that the DER investment will increase costs, when in fact it will not.”¹⁴

While utilities have argued in previous FEECA filings that RIM scores of less than 1.0 would lead to higher rates for non-participants, that is neither assured nor does it comport with recent experience. For lost revenues to actually lead to higher rates for customers, a utility would need to experience a reduction in revenue sufficiently large to cause it to fall below the earnings band of its authorized revenue requirement, and thereby fail to recover its fixed costs. If, however, a utility is within its revenue earnings band then, by definition, it has not failed to recover its fixed costs and customers should not see rate increases. Last July, when considering whether or not to approve utility program plans, the Commission rightly noted that ECCR costs under the higher savings plans they approved would in fact go down for nearly all customers, and that changes would be negligible for the rest. This despite utility claims that many of the measures and programs included in the plans did not pass the RIM Test.

Setting New Criteria for Establishing Cost Effectiveness

Done well, cost effectiveness analysis helps regulators to understand whether overall benefits will exceed costs for efficiency measures, programs, or entire portfolios. Cost effectiveness analysis can also help identify the measures and programs that will yield the best return. And it facilitates comparison between demand side resources and supply side resources. It is through cost effectiveness analysis that energy efficiency investments have been shown again and again to be least-cost energy resources. Thus cost effectiveness analysis enables utilities and regulators to make smarter resource investment decisions by deploying energy efficiency to offset the need for more expensive supply side generation costs, which are ultimately passed on to customers in the form of higher bills. In short, accurate cost effectiveness analysis is a critical tool for determining prudence of efficiency investments, and by extension ensuring affordability for customers.

There can be no denying that the subject of cost effectiveness has been one of the most consistently contentious and volatile matters in past FEECA proceedings. It is for these reasons that clear cost effectiveness guidelines must be fully and fairly considered with appropriate changes made to the FEECA rules. Doing so will reduce tension in future FEECA proceedings, while providing much needed clarity, consistency, and predictability on which all can rely.

As demonstrated above, the RIM Test cannot function as the *primary* test for cost benefit analysis because it conflates cost effectiveness and rate impact factors and thus cannot be used properly for either. Past reliance on RIM as the primary cost test in FEECA resulted in tremendous missed opportunities, poor overall efficiency performance compared to other states, and was ultimately used to justify utility proposals for zero goals in 2019. The Commission rejected those goals, and called for rulemaking to correct problems in the FEECA rules that led to this situation. As stated above, no other state parily relies on the RIM Test for setting savings goals - for the obvious reason that it is not useful for that purpose.

¹⁴ *Id.*, pg. A-4.

There are several alternative cost effectiveness tests that are better suited to the requirements of FEECA and they should be carefully considered during this rulemaking proceeding. We propose multiple options, ranked in order of preference, that would be effective replacements for RIM as the primary cost effectiveness test, and we specifically request that one of these options be selected and amended into the revised FEECA rules.

The Multi-Test Cost Effectiveness Approach

There are many approaches to cost effectiveness testing that could match Florida's needs going forward and would, without question, lead to better efficiency performance for the state. One such approach was recently adopted in Virginia and it is the one we have incorporated into our attached type-and-strike rules. This approach relies on all four of the cost effectiveness tests in the California Standard Practice Manual ("CSPM"), but requires that measures, programs, and portfolios must only pass three of the four tests. In this way, the Commission will have a preponderance of evidence demonstrating cost effectiveness on which to base its FEECA goals, with meaningful information provided from a robust array of perspectives. As previously noted, no other state but Florida relies upon the RIM test as the basis for setting efficiency savings goals or approving program plans. But prior to implementing its new cost effectiveness methodology, Virginia was the last remaining state still using RIM as its primary cost effectiveness test. It is not surprising, therefore, that prior to modernizing its cost effectiveness practices, Virginia's efficiency performance in 2019 was comparable with Florida's, which placed both at the bottom end of states with established efficiency policies. Implementing this approach to cost effectiveness would require updating Florida's Cost Effectiveness Manual to include the Utility Cost Test ("UCT") as described in the 2001 CSPM). This test is described below.

Basing Cost Effectiveness on the Utility Cost Test

If the Commission does not adopt the Multi-Test Cost Effectiveness Approach described above, we recommend that it replace RIM as the primary cost test with the Utility Cost Test as described in the 2001 CSPM and the 2020 NSPM. If the UCT is adopted as the primary test, we expect the results of all three of the remaining tests in the Florida Cost Effectiveness Manual for Demand Side Management Programs and Self-Service Wheeling Proposals ("Florida Cost Effectiveness Manual") would still be presented to the Commission as supplemental information. In our type-and-strike revisions, we amend the Florida Cost Effectiveness Manual to reflect the addition of the UCT. Adding the UCT is consistent with language in the Florida Cost Effectiveness Manual, which was not meant to remain static and explicitly states that "The delineation of the various ways of expressing test results is not meant to discourage the continued development of additional variations for expressing cost effectiveness."¹⁵

The NSPM states that: "The UCT includes all benefits and costs that affect the operation of the utility system and the provision of electric and gas services to customers. For vertically integrated utilities, this test includes all of the benefits and costs that affect utility revenue requirements."¹⁶ Thus, the UCT accounts for all utility system costs directly associated with

¹⁵ Florida Cost Effectiveness Manual for Demand Side Management Programs and Self-Service Wheeling Proposals, Adopted at June 11, 1991 Agenda Conference Effective: July 17, 1991,

¹⁶ NSPM, pg. E-2.

implementing energy efficiency resources and compares them to all utility system costs that are avoided by the same efficiency resource investments.

The UCT is a unique and important cost effectiveness test that has been widely adopted across the country and would be particularly well suited for use with FEECA. Because the UCT specifically considers the ratepayer costs and utility system benefits for all customers, we recommend that Florida add the UCT to the Florida Cost Effectiveness Manual. If the Commission does not select the Multi-Test Cost Effectiveness Approach described above, we recommend that the revised FEECA rules specifically identify UCT as the primary cost effectiveness test for FEECA goal setting and program plan approval.

Total Resource Cost Test

Like the UCT, the Total Resource Cost Test is widely used across the country for cost effectiveness evaluation of efficiency investments. What distinguishes the TRC test is that it considers the total costs and benefits associated with both the utility and customers. In essence, the TRC answers whether the sum of benefits for the utility system and customer exceed the costs, regardless of the share of cost paid by the customer and utility. Efficiency investments pass the TRC if utility system costs plus program participant's costs are less than utility system benefits plus program participant's benefits.

The TRC is in the Florida Cost Effectiveness Manual and has been included in utility filings and Commission FEECA decisions in the past. The TRC is also a viable replacement for RIM as the primary cost test, should the Commission choose not to adopt either the Multiple Cost Effectiveness Test Approach or make the UCT the primary cost effectiveness criteria.

This test, however, does not consider cost effectiveness strictly from the perspective of utility system benefits and investments of ratepayer dollars. Instead it compares the combined utility and customer costs against the total utility and customer benefits. A potential and relatively common shortcoming of the TRC test occurs when it is applied asymmetrically. That is, when all customer and utility costs are included, but only utility system benefits are counted. Failing to include non-energy customer benefits - like reduced operation, maintenance, and replacement costs, for instance - improperly skews the test results downward. Both the North and South Carolina utility commissions recently modified their respective energy efficiency policies in recognition that prior application of the TRC had in fact been asymmetrical in just this way. If the TRC is made the primary cost effectiveness test for FEECA, the rules must ensure that it is analyzed symmetrically. If only utility system benefits will be counted, then only utility program expenditures (and not customer costs) should be counted - which is in effect the UCT.

Develop a Jurisdictional Cost Benefit Analysis

The NSPM describes a process by which a cost benefit analysis methodology can be developed to match the unique policy priorities of a local jurisdiction. Doing so could ultimately provide an even better match for Commission decision making in FEECA, and we would support this approach if the Commission is interested in pursuing it. It is worth noting that it is a relatively time and resource intensive undertaking, however, which is why we have not made it our first recommendation. Regardless of whether this process for creating a Jurisdictional Cost Benefit

Analysis is taken, clearly there are many insights from the NSPM that are of direct value to this rulemaking.

Considering Rate Impacts and Cost-Shifting

While distinct from cost benefit analysis, rate impacts are an important consideration for efficiency - just as they are in other resource decisions. But, once again, the RIM test is not the best way to understand rate impacts on customers, nor is it very helpful for considering equity between customers. Most importantly, RIM test scores cannot be meaningfully compared against utility system benefits because RIM does not provide useful insight into the proportion of rate impact in the real world. Moreover, to actually understand how efficiency investments will impact customers, it is helpful to additionally consider bill impacts and efficiency program participation, along with rate impacts. Taken together, these three considerations provide Commissioners a more complete view of the equity implications and real world financial impacts of efficiency investments on non-participants - in ways that actually can be compared against utility system benefits in useful ways.

The NSPM provides a contemporary roadmap for analyzing rate impacts, bill impacts, and evaluating customer participation. Because this approach would redefine and substantially improve on existing practices, we provide key details from the NSPM concerning their unique purpose and methods of calculation.

Concerning rate impact analysis the NSPM states:

- Any estimates of the impact of lost revenue recovery on rates should reflect collection of only those lost revenues necessary to recover fixed costs.
- Rate impacts should be estimated over the long term, to capture the full period over which the efficiency savings will occur. The study period should include all the years in which [efficiency resources] are installed and operational.
- Rate impacts should also be put into terms that place them in a meaningful context, so that they can be properly considered and weighed by regulators and other stakeholders. For example, **they should be put in terms of ¢/kWh impacts, dollars per month, percent of total rates, or percent of total bill.**¹⁷ (Emphasis added)

Concerning analysis of bill impacts, the NSPM states:

- As with rate impacts, bill impacts should be estimated over the long term, to capture the full period over which the [efficiency resource] is installed and operational.
- Bill impacts should also be put into terms that place them in a meaningful context, so that they can be properly considered and weighed by [efficiency resource] planners and regulators. For example, they should be put in terms of dollars per month or percent of total bill.¹⁸

And regarding participation, it states:

- Participation estimates should be put in terms of participation rates, measured by dividing [efficiency resource] host customers by the total population of customers. Participation

¹⁷ *Id.*, pg. A-5.

¹⁸ *Id.*, pg. A-6.

rates provide context and more meaningful information relative to a simple number of program participants.

- Many equity concerns driven by rate impacts can be mitigated or even eliminated by promoting greater customer adoption.¹⁹

Finally, the NSPM states:

“There is no bright line to determine how to balance the cost-effectiveness results with the rate, bill, and participation analysis results. Nonetheless, the results of both analyses can be used to inform that balance. Regulators and other stakeholders can use these two types of analyses to assess whether any expected long-term rate impacts are warranted in light of the cost-effectiveness results, the bill reductions, and the participation rates.”²⁰

Ultimately, the results of these three factors should be compared against the utility system benefits to find a balance that the Commission feels is in the best interest of customers. As noted in our testimony during the 2019 FEECA proceeding, a virtually imperceptible rate impact of just a fraction of one percent can ultimately yield more than \$100 million worth of utility system benefits. As a matter of policy, Commissioners should be given the information needed to weigh these factors with enough relevant, comparable, and comprehensible data needed to make the most informed decisions concerning energy efficiency investments.

Meeting the Needs of Low Income Families

Too many Floridians pay a disproportionately high share of their income on their power bill – also known as having a high energy burden. No family should have to make a choice between paying a power bill and affording essentials like food, rent, or medicine. This already difficult situation has been exacerbated by the economic fallout from the COVID-19 pandemic, which has intensified energy burden for low-income customers.

The Commission has expressed a desire to address the needs of low-income customers,²¹ and while utilities offer low-income efficiency programs, they vary widely in terms of scale and depth. At present, the FEECA rules provide no guidance for how the unique needs and considerations around low-income efficiency are to be handled in either goal setting or program planning proceedings. For instance, it is well recognized that low-income energy efficiency programs should not be held to the same cost benefit standards as other programs. The Florida Commission has indicated as much in past decisions, but the FEECA rules are silent on this subject. Additionally, the rules provide no guidance for determining the appropriate level of energy efficiency savings and investment that should be directed to low income customers. As a result, we have seen a 50-fold difference in low income efficiency program savings between some FEECA utilities,²² despite comparable proportions of the population meeting low-income criteria. Moreover, as noted above, the 2-year screen currently eliminates many of the most

¹⁹ *Id.*, pg. A-6.

²⁰ *Id.*, pg. A-6.

²¹ Florida Public Service Commission, Order No. 14-0696-FOF-EO (December 16, 2014), p. 27.

²² Southern Alliance for Clean Energy, *Direct Testimony of Forest Bradley-Wright*, Florida PSC, Docket Nos. 20190015-EG, 20190016-EG, 20190018-EG, 20190019-EG, 20190020-EG, 20190021-EG, 2019, p. 25.

common and effective energy efficiency improvements for low income customers, and should be eliminated.

Not only are low-income households in the greatest need of energy efficiency programs to lower their monthly bills, they also pay into the efficiency programs like everybody else. Yet they face numerous barriers to participation when efficiency programs are not designed with their financial circumstances in mind. As such, there is a moral imperative that the savings and investments in efficiency programs for low income customers be at the very minimum proportionate to their share of the population, or financial contribution to the ECCR clause. Unfortunately, low income households are likely to receive the short end of the stick unless there is an intentional focus on funding and designing programs in ways that ensure their participation despite their financial limitations.

This rulemaking must address the unique needs of the utilities' most vulnerable customers in a comprehensive, robust, and consistent fashion. We recommend the Commission state in the FEECA rules that efficiency savings for low income customers are a discreet priority that will be supported by specific levels of allocated funding as a percentage of total spending, similar to the approach used in Texas.²³ We propose that either a) 15% of the total energy efficiency portfolio budget or b) a proportionate percentage of revenue expected to be collected from low income customers (whichever is greater) be allocated to programs designed for, and directed towards, low-income households. Of this, we propose that at minimum, one third of the funding allocated for low-income efficiency programs be directed towards programs for low income renters and multifamily housing.

In light of the financial constraints of and elevated needs of low income households, low income efficiency programs should not be held to the same cost effectiveness standards as standard efficiency programs. However, that does not mean there should be no cost effectiveness requirements. The Commission should consider whether utility expenditures on low income programs are prudent - yielding a meaningful level of savings for the money spent. And the Commission should ensure program offerings for low income customers target both broad participation and deep savings - with enough bill reductions to meaningfully improve the financial condition of individual households with the greatest need.

We strongly urge the Commission to codify the requirement for a minimum level of expenditure and waive the cost effectiveness requirements for low income efficiency programs in R. 25-17.0021 and have included suggested language in our type-and-strike rules.

Other Considerations

Aligning Utility Interests with Meaningfully Energy Efficiency Performance

The Commission should consider regulatory mechanisms that align meaningful energy savings performance with the utility business model. By coupling utility incentives to meaningful desired energy savings outcomes, the Commission can create an environment that encourages utilities to invest in energy programs that deliver significant savings to customers. The Florida Legislature

²³ Texas Administrative Code Section 25.181, p. 18.

provided authority to the Commission to consider performance incentive mechanisms when it amended the FEECA statute in 2008, but the Commission has yet to implement it.²⁴

Improving Calculation Methodology Consistency

There are significant differences in the way cost effectiveness is calculated between the FEECA utilities, even on factors that should be consistently applied. One such factor concerns the number of years that energy savings benefits are counted. In all cases, and for all utilities, the number of years savings benefits are counted should be equal to the average lifespan of the applicable measure. For measures with longer lifespans, this will mean counting all of the energy savings that extend beyond the years for which annual goals are being set. In general, it would be appropriate for the FEECA utilities to move towards more consistency in cost effectiveness calculation methodologies, particularly on factors with relatively large effects on outcomes.

Merging Goals and Plans Misses Opportunity

The Purpose and Effect of the Notice of Development of Rulemaking for this docket is to “add clarity and specificity to the rule language concerning demand-side management goals, plans, and programs for electric utilities and to update the rule to improve administrative efficiency.” Yet, the proposed draft rule, by ignoring the economic screening practices in its scope misses an opportunity to provide both much needed administrative efficiency and clarity to the FEECA goal setting process. As mentioned above, the volatility of the process has focused on the goal setting itself and uncertainty regarding the elimination of measures without empirical evidence or without full information on the system benefits of those measures. Without addressing these core issues, the FEECA goals setting process will continue to be plagued by uncertainty and volatility.

It is not clear that merging the goals and the plan approval processes will yield measurable benefits, and could further confuse the process. Staff has proposed to move the filing of programs to the beginning of the FEECA goal setting process. If staff’s intent is to have real life measure data early on in the process, that can be accomplished without the statutorily inconsistent protocol it recommends. Regardless, staff’s intent to bring real-life data into the FEECA goal setting process is better focused on modernizing how free ridership is addressed at the Commission as well as cost effectiveness.

Request for Additional Workshop(s)

SACE provides its type-and-strike comments below of R. 25-17.0021 (Attachment A) and the Florida Cost Effectiveness Manual (Attachment B), and requests a minimum of one additional workshop to facilitate an open, transparent, and more informed discussion regarding the rule revision options laid out in these comments and those of others participating in the rulemaking process. SACE thanks the Commission for the opportunity to file this request for a scoping workshop(s), and we look forward to working with staff, stakeholders, the public, and technical experts to address issues that will lead to better outcomes for the state and its citizens.

²⁴ Sections 366.82(8), (9), Fla. Stat.

Respectfully submitted this 15th day of February, 2021 by:

/s/ George Cavros

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ATTACHMENT A

25-17.0021 Demand-Side Management Goals, Plans, and Programs for Electric Utilities.

(1) For purposes of rule 25-17.0021 the following definitions shall apply:

- a. “Cost-effective” means any kilowatt hour (KWH) goal or demand side management program where the net present value of the benefits exceeds the net present value of the costs as determined by not less than any three of the following four tests: the Total Resource Cost Test, the Utility Cost Test, the Participant Test, and the Ratepayer Impact Measure Test. Such determination shall include an analysis of all four tests, and a program or portfolio of programs shall be approved if the net present value of the benefits exceeds the net present value of the costs as determined by not less than any three of the four tests. Such determination shall also be made (i) in consideration of the full expected life of the proposed measures, (ii) with the assignment of administrative costs associated with the conservation and ratemaking efficiency plan to the portfolio as a whole and (iii) with the assignment of education and outreach costs associated with each program in a portfolio of programs to such program and not to individual measures within a program, when such administrative, education, or outreach costs are not otherwise directly assignable. Low income programs are not required to meet the above standard, but will be evaluated for cost effectiveness.
- b. “Evaluation, measurement and verification” means the evaluation, measurement and verification (EM&V) of programs, conducted by an independent third-party using a nationally recognized protocol, that is performed to ensure that programs remain cost-effective. This protocol may be modified with approval of the Commission to reflect the evolution of best practices. EM&V will also include updates of any net-to-gross (NTG) factors related to previous NTG estimates for programs and measures.

All of the updated information will be used in evaluating the continued cost-effectiveness of existing programs, but updates to NTG estimates will not be applied retrospectively to measures that have already been installed or programs that have already been completed. If it becomes apparent during the implementation of a program that NTG factors are substantially different than anticipated, the utility will file appropriate program adjustments with the Commission.

- c. “Free ridership” means savings directly attributable to utility energy efficiency program participants who would have installed an energy efficiency measure without any utility efficiency program incentives, but receive a financial incentive or rebate anyway.
- d. “Low-income” means residential customers with household incomes at or below 200% of the federal poverty level.
- e. “Low-income energy savings goal” means a goal for low income customers that represents prudent expenditures of not less than 15% of the utility’s energy efficiency budget for the program year intended to meet the low- income KWH energy savings goal.

~~(1)~~ (2) The Commission will initiate a proceeding at least once every five years to shall establish numerical goals for each affected electric utility, as defined by Section 366.82(1), F.S., to reduce the growth rates of weather-sensitive peak demand, to reduce and control the growth rates of electric consumption, and to increase the conservation of expensive resources, ~~such as petroleum fuels~~. Overall Residential kilowatt (KW) and KWH goals and overall Commercial/Industrial KW and KWH goals shall be set by the Commission for each year over a ten-year period. The goals shall be based on an assessment of the technical potential of available measures, and an estimate of the total cost effective kilowatt KW and kilowatt-hour KWH savings reasonably achievable through demand-side management in each utility’s service area over a ten-year period. Each utility’s filing must describe how the

technical potential study was used to develop the utility's proposed goals. Measure and program costs shall be reasonable and utilities shall identify their source and rationale. Consistent measure and programs costs must be used in utility goal setting and program plan proposals.

~~(2)~~ (3) The Commission shall set goals for each utility at least once every five years. The Commission on its own motion or petition by a substantially affected person or a utility may initiate a proceeding to review and, if appropriate, modify the goals. All modifications of the approved goals, plans and programs shall only be on a prospective basis.

~~(3)~~ (4) In a proceeding to establish or modify goals, each utility shall propose numerical goals for the ten year period and provide ten year projections, based upon the utility's most recent planning process, of the total, cost-effective, winter and summer peak demand (KW) and annual energy (KWH) savings reasonably achievable in the residential and commercial/industrial classes through demand-side management. Such goals shall include a low-income energy savings goal of at least 15% of the utility's energy efficiency budget with at least one third dedicated to low-income customers residing in multi-family structures. Each utility's goals ~~—projection~~ shall reflect consideration of overlapping measures, rebound effects, free riders, ~~—interactions with building codes and appliance efficiency~~ and baseline standards consistent with an analysis of evaluation, measurement and verification. ~~and the utility's latest monitoring and evaluation of conservation programs and measures.~~ Each utility's projections shall be based upon an assessment of, at a minimum, the following market segments and major end-use categories.

(5) The Commission adopts and incorporates by reference the publication Florida Public Service Commission Cost Effectiveness Manual For Demand Side Management Programs and Self-Service Wheeling Proposals as amended, available at [link]

Residential Market Segment:

(Existing Homes and New Construction should be separately evaluated) Major End-Use

Category

- 1.~~(a)~~ Building-Envelope Efficiencies.
- 2.~~(b)~~ Cooling and Heating Efficiencies.
- 3.~~(c)~~ Water Heating Systems.
4. Lighting Efficiencies.
- 5.~~(d)~~ Appliance Efficiencies.
- 6.~~(e)~~ Peak Load Shaving.
- 7.~~(f)~~ Solar Energy and Renewable Energy Sources.
- 8.~~(g)~~ Renewable/Natural gas substitutes for electricity.
- 9.~~(h)~~ Other.

Commercial/Industrial Market Segment:

(Existing Facilities and New Construction should be separately evaluated) Major End-Use

Category

- 10.~~(i)~~ Building Envelope Efficiencies.
- 11.~~(j)~~ HVAC Systems.
- 12.~~(k)~~ Lighting Efficiencies.
- 13.~~(l)~~ Appliance Efficiencies.
- 14.~~(m)~~ Power Equipment/Motor Efficiency.
- 15.~~(n)~~ Peak Load Shaving.
- 16.~~(o)~~ Water Heating.
- 17.~~(p)~~ Refrigeration Equipment.
- 18.~~(q)~~ Freezing Equipment.

~~19.(f)~~ Solar Energy and Renewable Energy Sources.

~~20.(s)~~ Renewable/Natural Gas substitutes for electricity.

~~21.(t)~~ High Thermal Efficient Self Service Cogeneration.

~~22.(u)~~ Other.

~~(4)~~ (6) Within 90 days of a final order establishing or modifying goals, or such longer period as approved by the Commission, each utility shall submit for Commission approval a demand side management plan designed to meet the utility's approved goals. The following information shall be submitted for each program in the plan for a ten-year projected horizon period:

(a) The program name;

(b) The program start date;

(c) A statement of the policies and procedures detailing the operation and administration of the program;

(d) The total number of customers or appropriate unit of measure in each class of customer (i.e. residential, commercial, industrial, etc.) for each year in the planning horizon;

(e) The total number of eligible customers or appropriate unit of measure in each class of customers (i.e., residential, commercial, industrial, etc.) for each year in the planning horizon;

(f) An estimate of the annual number of customers or appropriate unit of measure in each class projected to participate in the program, including a description of how the estimate was derived;

(g) The cumulative penetration levels of the program by year calculated as the percentage of projected cumulative participating customers or appropriate unit of measure by year to the total customers eligible to participate in the program;

(h) Estimates on an appropriate unit of measure basis of the per customer and program total annual KWH reduction, winter KW reduction, and summer KW reduction, both at the customer meter and the generation level, attributable to the program. A summary of all assumptions used in the estimates will be included;

(i) A methodology for measuring actual kilowatt and kilowatt-hour savings achieved from each program, including a description of research design, instrumentation, use of control groups, and other details sufficient to ensure that results are valid;

(j) An estimate of the cost-effectiveness of the program using the cost-effectiveness tests in subsection (1)a and as described in ~~required pursuant to~~ Rule 25-17.008, F.A.C. If the Commission finds that a utility's conservation plan has not met or will not meet its goals, the Commission may require the utility to modify its proposed programs or adopt additional programs and submit its plans for approval.

~~(5)~~ (7) Each utility shall submit an annual report no later than March 1 of each year summarizing its demand side management plan and the total actual achieved results for its approved demand side management plan in the preceding calendar year. The report shall contain, at a minimum, a comparison of the achieved KW and KWH reductions with the established Residential and Commercial/Industrial goals, and the following information for each approved program:

(a) The name of the utility;

(b) The name of the program and program start date;

(c) The calendar year the report covers;

(d) Total number of customers or appropriate unit of measure by customer class for each year of the planning horizon;

(e) Total number of customers or appropriate unit of measure eligible to participate in the program for each year of the planning horizon;

(f) Total number of customers or appropriate unit of measure projected to participate in the program for each year of the planning horizon;

(g) The potential cumulative penetration level of the program to date calculated as the percentage of projected participating customers to date to the total eligible customers in the class;

(h) The actual number of program participants and current cumulative number of program participants;

(i) The actual cumulative penetration level of the program calculated as the percentage of actual cumulative participating customers to the number of eligible customers in the class;

(j) A comparison of the actual cumulative penetration level of the program to the potential cumulative penetration level of the program;

(k) A justification for variances larger than 15% for the annual goals established by the Commission;

(l) Using on-going measurement and evaluation results the annual KWH reduction, the winter KW reduction, and the summer KW reduction, both at the meter and the generation level, per installation and program total, based on the utility's approved measurement/evaluation plan;

(m) The per installation cost and the total program cost of the utility;

(n) The net benefits for measures installed during the reporting period, annualized over the life of the program, as calculated by the following formula:

$$\text{annual benefits} = B_{npv} \times d/[1 - (1+d)^{-n}]$$

where

B_{npv} = cumulative present value of the net benefits over the life of the program for measures installed during the reporting period.

d = discount rate (utility's after tax cost of capital).

n = life of the program.

(o) Any other relevant information the utility wants the Commission to consider.

Rulemaking Authority 366.05(1), 366.82(1)-(4) FS. Law Implemented 366.82(1)-(4) FS. History—New 4-30-93.

ATTACHMENT B

COST EFFECTIVENESS MANUAL
FOR
DEMAND SIDE MANAGEMENT PROGRAMS
AND
SELF SERVICE WHEELING PROPOSALS

Florida Public Service Commission

Tallahassee, Florida Adopted at June 11, 1991
Agenda Conference Effective: July 17, 1991

Amended on _____

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SECTION I. INTRODUCTION

This manual describes the minimum data requirements for the cost-effectiveness analyses used by the Florida Public Service Commission (FPSC) to evaluate utility proposed conservation programs, direct load control programs, and self-service wheeling proposals. The use of this manual is authorized by FPSC Rule 25-17.008, F.A.C.

Chapter 366.82, Florida Statutes, requires the FPSC to review and approve cost effective utility conservation programs. In addition, Chapter 366.051, Florida Statutes, requires public utilities to provide wheeling for self-service customers if such wheeling is not likely to result in higher cost electric service to the utility's general body of retail and wholesale customers or adversely affect the adequacy or reliability of electric service to all customers. FPSC Rule 25-17.008 and this manual were adopted as part of the implementation of these Statutes.

There are three tests contained in this manual: the Total Resource Test, the Participants Test, and the Rate Impact Test. In evaluating conservation and direct load control programs, the Commission will review the results of all three tests to determine cost-effectiveness. The Rate Impact and Total Resource tests used for self-service wheeling projects are similar to those used for conservation and load control programs. A Participants Test is not specified for self-service wheeling since it is assumed that the proposal is cost-effective to the party requesting the wheeling. In addition to the Rate Impact and Total Resource tests, there are additional considerations listed for self service wheeling projects.

Figure 1 is a pictorial comparison of the three cost effectiveness analyses set forth in this manual. Only very broad categories of costs and benefits are depicted so that the conceptual differences may be seen at a glance. The detailed definitions and applicable formulas are found in the manual proper.

The calculation of demand-reduction benefits for cost-effectiveness analyses performed under FPSC Rule 25-17.008 shall be on a revenue requirements basis for all programs under consideration. However, when the demand reduction achieved by a program cannot be reasonably projected to extend for the life of the avoided generating unit, the demand-reduction benefits shall also be calculated on a value of deferral basis.

The term "avoided generating unit" as used in this manual refers to a utility's proposed generating unit that is avoided in whole or in part by the demand-side management program. Avoided capacity charges shall be used in lieu of avoided generating unit costs, where appropriate, to determine cost effectiveness. Use of avoided capacity charges in lieu of avoided generating unit costs may be particularly appropriate by nongenerating utilities, wholesale power purchasers, or members of a power pool arrangement.

This manual does not address interruptible and curtailable load. However, nothing herein shall preclude the Commission from applying this methodology to such non-firm

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load after explicit consideration of the matter by the Commission in a proceeding.

The delineation of the various ways of expressing test results is not meant to discourage the continued development of additional variations for expressing cost effectiveness.

SECTION II. CONSERVATION AND DIRECT LOAD CONTROL

This Section describes the cost effectiveness tests that are required for conservation and direct load control programs. Three separate tests are defined. These are: the Total Resource Test, the Participants Test, and the Rate Impact Test.

The following information is provided for each test: (1) a definition; (2) the components of the benefits; (3) the components of the costs; (4) the formulas to be used to express the results in acceptable ways; and (5) the reporting format.

UTILITY COST TEST

DEFINITION

The Program Administrator 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 net costs incurred by the participant. The benefits are similar to the TRC benefits. Costs are defined more narrowly.

GENERAL DESCRIPTION OF BENEFITS

The benefits for the Program Administrator Cost Test are the avoided supply costs of energy and demand, the reduction in transmission, distribution, generation, and capacity valued at marginal costs for the periods when there is a load reduction. The avoided supply costs should be calculated using net program savings, savings net of changes in energy use that would have happened in the absence of the program. For fuel substitution programs, benefits include the

avoided supply costs for the energy-using equipment not chosen by the program participant only in the case of a combination utility where the utility provides both fuels.

GENERAL DESCRIPTION OF COSTS

The costs for the Program Administrator Cost Test are the program costs incurred by the administrator, the incentives paid to the customers, and the increased supply costs for the periods in which load is increased. Administrator program costs include initial and annual costs, such as the cost of utility equipment, operation and maintenance, installation, program administration, and customer dropout and removal of equipment (less salvage value). For fuel substitution programs, costs include the increased supply costs for the energy-using equipment chosen by the program participant only in the case of a combination utility, as above.

In this test, revenue shifts are viewed as a transfer payment between participants and all ratepayers. Though a shift in revenue affects rates, it does not affect revenue requirements, which are defined as the difference between the net marginal energy and capacity costs avoided and program costs. Thus, if NPVpa > 0 and NPVRIM < 0, the administrator's overall total costs will decrease, although rates may increase because the sales base over which revenue requirements are spread has decreased.

FORMULAS

The formulas for the net present value, the benefit-cost ratio and levelized cost are presented below:

$$\text{NPVpa} = \text{Bpa} - \text{Cpa}$$

$$\text{BCRpa} = \text{Bpa}/\text{Cpa}$$

$$\text{LCpa} = \text{LCpa}/\text{IMP}$$

Where:

NPVpa Net present value of Program Administrator costs

BCRpa Benefit-cost ratio of Program Administrator costs

LCpa Levelized cost per unit of Program Administrator cost of the resource

Bpa Benefits of the program

Cpa Costs of the program

LCpc Total Program Administrator costs used for levelizing

$$B_{pa} = \sum_{t=1}^N \frac{UAC_t}{(1+d)^{t-1}} + \sum_{t=1}^N \frac{UAC_{at}}{(1+d)^{t-1}}$$

$$C_{pa} = \sum_{t=1}^N \frac{PRC_t + INC_t + UIC_t}{(1+d)^{t-1}}$$

$$LCpc = \sum_{t=1}^N \frac{PRC_t + INC_t}{(1+d)^{t-1}}$$

The first summation in the Bpa equation should be used for conservation and load management programs. For fuel substitution programs, both the first and second summations should be used.

REPORTING FORMAT

The results of this test can be expressed either as a net present value, benefit-cost ratio, or levelized costs. The net present value is the primary test, and the benefit-cost ratio and levelized cost are the secondary tests.

Net present value (NPVpa) is the benefit of the program minus the administrator's costs, discounted over some specified period of time. A net present value above zero indicates that this demand-side program would decrease costs to the administrator and the utility.

The benefit-cost ratio (BCRpa) is the ratio of the total discounted benefits of a program to the total discounted costs for a specified time period. A benefit-cost ratio above one indicates that the program would benefit the combined administrator and utility's total cost situation.

The levelized cost is a measure of the costs of the program to the administrator in a form that is sometimes used to estimate costs of utility-owned supply additions. It presents the costs of the program to the administrator and the utility on per kilowatt, per kilowatt-hour, or per therm basis levelized over the life of the program.
