150 N Riverside Plaza
Suite 2100
Chicago, IL 60606
www.navigant.com

To: ComEd and ICC
From: Navigant Consulting
Date: December 5, 2019
Re: CY2018 Volt VAR Optimization Total Resource Cost Evaluation - Final

INTRODUCTION

This memo summarizes Navigant's cost-effectiveness analysis of the CY2018 Volt VAR Optimization (VVO) program and is an addendum to the original TRC report submitted to ComEd on August 15, 2019[1].

The final costs and energy savings estimates for the CY2018 VVO program weren't available at the time the cost-effectiveness analysis for the CY2018 portfolio was completed and in order to meet the filing deadline for the CY2018 cost-effectiveness analysis report, ComEd and the ICC staff recommended Navigant to not hold up the report due to the VVO program data and instead conduct the analysis when the data was available and document the results in a follow-up memo.

SUMMARY

Table 1 and Table 2 below show a detailed breakdown of the different components of the cost-effectiveness calculations for the VVO program. The tables include the value of each benefit and cost component for the TRC and UCT calculation. The TRC and UCT values for the CY2018 VVO program are 1.33 and 0.93 respectively.

[1] ComEd CY2018 TRC Report 2019-10-21.doc

NAVIGANT

150 N Riverside Plaza
Suite 2100
Chicago, IL 60606
www.navigant.com

Table 1 IL TRC calculation Benefit and Cost breakdown of the CY2018 VVO program

Program	Benefits						Costs			IL Total Resource Cost (TRC) Test			
	Avoided Electric Production (w/GHG adder)	Avoided Electric Production (w/o GHG adder)	Avoided Electric Capacity	Avoided Water Costs	Avoided Gas Production	NPV Replacement costs	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	IL TRC Benefits	IL TRC Costs	IL TRC Test Net Benefits	IL TRC Test
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k) = (b+d+e+f+g)	(l) = (g+j)	(m) = (k-l)	(n) = (k/l)
VVO Program	$39,486,149	$37,005,123	$0	$0	$0	$0		$29,665,045		$39,486,149	$29,665,045	$9,821,104	1.33

Source: Navigant analysis

Table 2 UCT calculation Benefit and Cost breakdown of the CY2018 VVO program

Program	Benefits			Costs		Utility Cost Test (UCT)			
	Avoided Electric Production (w/o GHG adder) Using WACC	Avoided Electric Capacity Using WACC	Avoided Gas Production Using WACC	Non-Incentive Costs	Incentive Costs	UCT Benefits	UCT Costs	UCT Test Net Benefits	UCT Test
(a)	(b)	(c)	(d)	(e)	(f)	(g) = (b+c+d)	(h) = (e + f)	(i) = (g-h)	(j) = (g/h)
VVO Program	$27,598,869	$0	$0		$29,665,045	$27,598,869	$29,665,045	-$2,066,176	0.93

Source: Navigant analysis

NAVIGANT

150 N Riverside Plaza
Suite 2100
Chicago, IL 60606
www.navigant.com

Cost And Savings Review

ComEd provided the overall cost estimate of $29,665,045 for the entire program. This estimate included the equipment, labor, IT, Direct and Indirect costs associated with implementing the program. Navigant reviewed the program cost and energy savings data and identified the following findings about the analysis. These costs were assumed to be the same as the incentives for calculating the UCT values.

For the savings, Navigant leveraged the final evaluation reports. The CY2018 impact analysis didn't include a peak demand reduction and hence it is not included for the TRC calculation.

Summer Peak KW savings

The VVO program did not claim any peak demand savings in CY2018 and the impact evaluation did not analyze the verified peak demand savings either. The CY2019 TRC analysis and those going forward will include the peak demand savings calculated based on the methodology developed by Navigant and ComEd. Navigant will continue using the verified energy and peak demand savings values provided in the corresponding evaluation reports.

Meanwhile, Navigant did a literature review to provide guidance to ComEd for developing planning TRC numbers for CY2020. Navigant reviewed the peak demand savings for similar programs implemented by other utilities and recommends using a deemed peak demand savings of 1.06% of the total peak demand on the feeders participating in the VVO program. This recommendation is only for calculating the planning numbers and Navigant will follow the approach finalized during the stakeholder discussions in CY2020.