

2015 IRP Memorandum of Understanding Guide

As part of the approval process of VEC's most recently filed IRP in 2016, VEC agreed to the address several specific topics in the 2019 IRP as stipulated in a Memorandum of Understanding (MOU) issued July 16th, 2016 in Docket No. 8672. This document serves as a guide to describe for the reader where and how the 2019 IRP addresses each of the applicable stipulations from the MOU. Below are the applicable Terms and Conditions outlined in the MOU followed by explanations, depicted in bold italics, of where and how they are each addressed in VEC's 2019 IRP.

TERMS AND CONDITIONS

3. VEC's next regularly scheduled IRP will reflect the following:
 - a. Load forecasting: VEC will refine its load forecasting methodology to capture a more realistic high and low scenarios. VEC will consult closely with the Department well in advance of completing the load forecast to identify a methodology which fully encompasses appropriate high and low sensitivity cases, efficiency measures, and Tier 3 implementation.

In the 2015 IRP, the Department was concerned that the efficiency measures installed by EVT in VEC's territory and VEC's projections of the impacts of its Tier III programs resulted in unreliable load forecasts.

The load forecast was prepared by Daymark Energy Advisors (DEA) and completed in August 2018. As the report explains, it was conducted using methodologies that produced statistically valid results. Prior to DEA finalizing the forecast, VEC compared the resulting base, high and low forecasts to load forecasts prepared for the Vermont Electric Power Company (VELCO) by ITRON. When adjusted for different treatment of Net Metering, efficiency and electrification, the load growths in the forecasts compared favorably.

VEC then adjusted these forecasts by the impact of efficiency measures to be installed on the VEC system by EVT and VEC's projected impacts of its Tier III programs and new net metering installations, as discussed below and in sections 3.2.1 and 3.6 of the IRP.

- b. VEC will include a more detailed discussion than was provided in the 2015 IRP of how efficiency was considered, specifically the impact of efficiency measures on different peaks in demand including summer, winter and annual peaks. This analysis will include the impact of historical and planned efficiency measures.

In the 2015 IRP, VEC hired Grimason Associates to model the impact of historical and projected Efficiency impacts as explained in that IRP. For the 2019 IRP VEC changed its methodology entirely. For projections of energy and peak impacts for 2019 – 2038 VEC used projections of annual MWh savings and summer and winter peak kW savings provided by EVT from installations in VEC’s territory. This is more fully described in Section 3.2.1. This section includes tables and charts of annual energy and seasonal peak impacts.

Historic impacts were incorporated into the load forecast to the extent that projected loads were based on historic load data that is already impacted by previously installed efficiency measures.

- c. VEC will provide a detailed analysis of the impact of Tier 3 compliance on demand. When VEC has a specific implementation plan for Tier 3, it will consider how the measures it plans to deploy will impact summer, winter, and annual peaks as well as how those measures will influence VEC’s power purchasing strategies and operation of the distribution system. VEC should include an explicit discussion of how it is integrating efficiency measures into Tier 3 implementation.

The impacts of Tier III programs and an explanation of the methodology used to arrive at the impacts is covered in Section 3.6. Spreadsheets are available that detail the assumptions and calculations.

In addition, VEC completed an analysis to determine electrical constraints as a result of the projected Tier III load growth. Two maps showing the constrained area are referenced in Appendix Q and R

The methodology and assumptions used were discussed with the Department in the meetings referenced in item f below.

- d. VEC will develop a quantitative methodology for considering competing supply portfolio options. This methodology shall provide an analysis of the costs and benefits of different potential portfolios and include a quantitative analysis of the value of energy, capacity, ancillary services, and RECs of potential portfolios. The methodology should deliver a quantitative assessment of the various value streams provided by integrated portfolio options and develop a cost, either NPV or other appropriate measure, associated with each portfolio option.

Because VEC’s portfolio is already in compliance with Tier I, Tier II and Tier III requirements for the reasonably foreseeable future, the only portfolio scenarios analyzed in this IRP were the cost of VEC entering contracts to become 100% Carbon Free and 100% Renewable from the perspective of annual energy need.

As explained in section 3.3.3 these analyses were compared against VEC’s reference portfolio from both 20-year Net Present Value and Rate Impact perspectives.

These methodologies and the results of the analyses were shared with the Department prior to VEC finalizing this IRP.

- e. VEC should include a discussion regarding the environmental impact of different portfolio options, including quantification of GHG emissions and other emissions information for each portfolio. VEC will meet with the Department well in advance of filing its IRP to develop an agreed upon method of capturing environmental externalities in its portfolio cost modeling.

As described in Section 3.3.2, VEC assigned emissions to the various portfolios using the emissions profile of the 2017 NEPOOL Residual Mix in the NEPOOL Generation Information System.

This analysis was not necessary for the 100% Carbon-Free and 100% Renewable scenarios analyzed because those scenarios inherently have virtually no emissions.

VEC will continue to track emissions for its portfolio using a similar methodology with updated NEPOOL Residual Mix data.

Potential methodologies were discussed with the Department, as were the final assumptions used and the results of the analyses.

- f. VEC should meet with representatives from the Department not less than once every two months for the year preceding the filing with the goal of reaching consensus on key issues, including those outlined above, before the IRP is filed.

VEC and the Department held a number of face-to-face meetings to discuss VEC's assumptions, methodology and preparation of this IRP.

Meetings were held on:

January 22, 2018

February 6, 2018

April 22, 2018

June 28, 2018

August 30, 2018

October 25, 2018

October 29, 2018

December 13, 2018

January 15, 2018

February 21, 2019

May 5, 2019

May 8, 2019 (Phone)

May 9, 2019

May 30, 2109

June 18, 2019