CPUC Comments on SWWP002-02 VFD on Ag Pump

Lead PA: PGE

Workpaper Submittal Date: 12/21/2020

CPUC Review Date: 2/25/2021

Please note responses to comments in the table below, revise workpaper, and upload the entire package to the WPA. If needed, please reach out to Deemed Review Team to set up a call to discuss.

|  |  |
| --- | --- |
| CPUC Comment | PA Response |
| CPUC reviewers note that baseline costs for new construction applications are derived using estimated costs for soft starters. However, the savings estimates assume the presence of throttle valve controls. Should the workpaper team also incorporate the costs into the base case for this alternative control strategy? This implies an uncontrolled pump.  It is also notable that for retrofit applications “The pumping application must currently have the means to vary the pressure/flow (i.e. throttle valve, control valve, etc.).” So the program already has in place eligibility requirements that exclude uncontrolled pumping applications. Seems this same requirement should be reflected in the new construction cost estimates for the base case. | The base case involves a constant speed pump controlled by a throttling valve and, as in most system using a large electric motor, a soft starter to reduce the in-rush current during starting of the pump. In this case, the soft starter does not provide any flow control, is only used to start/stop de pump.  The cost of the soft starter doesn’t affect the base cost of the AOE measures since the customer has the option to make no changes to their existing equipment. For NR and NC, the soft starter cost will affect the incremental cost of the measure. The IMC could be consider as the difference between the cost of the soft starter VS the VFD/VSD. |
| CPUC reviewers also note that under the discussion of NTG it is explained that evaluation results have been adopted.  However, some left-over language remains that should be removed: “ These sector average NTGs (“default NTGs”) are applicable to all energy efficiency measures that have been offered through agriculture and commercial sector programs for more than two years and for which impact evaluation results are not available.” This would only be relevant in the event that a default NTG is applied, which is not the case here. | Agreed, paragraph indicated was deleted from word document and will part of this submittal. |

Please take the following additional input into consideration for use in future workpaper updates. These comments do not represent any immediate concern, and no workpaper response or follow-through is expected at this time.

|  |  |
| --- | --- |
| CPUC Comment | PA Response |
| CPUC reviewers believe that future workpaper updates can benefit from results and methods used to derived gross impacts under the Small/Medium Commercial evaluations for PY2018 and PY2019. Roughly 40-50 pumps were modeled in each years’ evaluation. These results can be mined for use in workpaper updates.  Furthermore, the evaluation gross impact modeling approach makes use of models that are calibrated using AMI data. AMI data, often dedicated to a particular pump/utility account, ensures that the resulting models accurately account for actual pump runtime and the pump load distribution across pump speeds. This results in highly accurate results/models. It might be possible for the utilities to build upon the evaluation dataset using a similar modeling approach.  CPUC reviewers find this to be preferential to ongoing use of legacy custom program and new construction program ex ante impact calculations. For example, it is unclear if those estimates were similarly calibrated.  The evaluation also presents various sample point metrics that might be mined for use in developing ex ante savings values for the workpapers – such as annual pump run hours, peak coincidence factors, crop type, acres served, etc. | We agree with this recommendation. There is enough information from previous projects to make these necessary adjustments to future version of this measure. The use of AMI data to determine energy savings and runtime hours is of a particular value to this measure |
| CPUC reviewers believe that AMI data should also be considered as a valuable tool for project screening for eligibility for retrofit applications, in order to ensure that pumps operate in excess of 1,000 hours per year, pumps operate at substantially reduced flows, and pumps don’t run uncontrolled prior to VFD retrofit. | Concur |
| CPUC reviewers believe that prior to future workpaper updates the ISP base case should be explored once more. It is notable that VFDs provide a host of non-energy benefits that can lead to adoption, even absent program influence: telemetry, soft-start, maintaining constant pressure in the manifold and distribution lines, and reduced pump maintenance and extended life.  Importantly, ISP study updates should differentiate base case by pump size and pump type (booster vs. well). CPUC reviewers would want to participate in the study design and analytic approach. | We welcome this recommendation and the interest of CPUC to participate on the design of the ISP study. We should consider this measure for the 2022 ISP Studies |