



Procedures and Guidelines For Pump Tests

The following information outlines the recommended procedures and guidelines for a Pump Test Preliminary Assessment under FY23 SRP Business Solutions Custom Program. Information in this document is designed to provide a basis of standard expectation from a pump test funded by FY23 SRP Business Solutions Custom Program. Compliance with this document will help address any particular configuration and performance requirement of a pump system. Where appropriate, industry specific pump testing procedures should be used. All tests results and deliverables should be reviewed carefully before submittal to SRP to ensure that they are complete and accurate.

Overview

Under the program, the pump test must:

1. Document pump system's performance:
 - a. under current field operational condition, and
 - b. under any alternative configurations the system may operate
2. Detect and diagnose problems related to structural issues (pumps/impeller/piping) and/or control issues
3. Document recommendation for system modification/improvements and provide an estimate of the potential energy and demand savings and implementation cost for the recommended modification/improvements

Pump Test

The pump test is intended to collect field performance data from one pump or multiple pumps. Field data should be collected with probes/gages/meters with certified calibration granted from either NIST or UL. Field data as collected during the pump test must be reliable in order to maintain the quality and accuracy of the energy savings estimate from potential system modifications/improvements.

Pump Test Equipment

In order to evaluate the baseline performance of a pump system, parameters such as flow rate (GPM), total dynamic head (TDH, ft.), and motor power input (kW) need to be recorded. Industry standard flow meters, hand-held pressure gauges, and amp probes can be used to record any of these system parameters. These test equipment should be capable of collecting, holding, and saving field measured data electronically for later review and use.

Deliverable & Documentation

The QSP will be required to complete a Preliminary Assessment Report in the SRP defined format. A template of this report will be provided to approved Pump Test QSPs. The report is prepopulated with basic program information and contains an embedded pumping efficiency calculation tool that would work for many pumping applications and is in place to minimize the QSP's time requirement in completing the report. The QSP would need to populate the inputs of this calculation tool using the field test data, provide existing pump system description along with recommendations for potential system improvements within the report. The QSP may choose to use any other calculation tool, provided that a copy of the analysis file is made available as part of the deliverables to the Program Administrator for review and approval.

The QSP must deliver a completed pump test assessment report to the Program Administrator. The QSP will not be submitting the report to the Customer at any point. Upon SRP's review and approval, the Program Administrator will facilitate the assessment results to the customer.

The following items must be gathered as supporting information for the deliverable's appendices during the field performance test of a pumping system:

- Pump and motor nameplate data
- Pump system data (TDH, GPM, motor kW)
- System diagram
- Pump curves

This information should be available electronically in the form of scanned documents or photographs.