

Water and Wastewater Pumping System Optimization Pilot Study Program



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EVERSOURCE

Introduction to the Program

- National Grid & Eversource will support an energy evaluation of water or wastewater pumping stations (in plant or at distribution/collection system pump stations)
- Purpose of the evaluation is to:
 - Determine current energy usage of pumps
 - Field testing will provide data on current operating efficiency
 - Identify opportunities for energy savings
 - Identify if the pumps are eligible for rebuild/replacement
 - Identify if the pumps would potentially benefit from the application of coating

Process Procedures

- Candidates selected
- Pump field testing preformed
 - System Improvements Identified
- Custom applications submitted to National Grid or Eversource
 - Incentive amount determined
- Customer completes system improvements
- Post Inspection
 - Verifications of equipment and operation
- Incentive Delivered to Customer

Pump System Testing

- Up to 100% of Cost covered by National Grid or Eversource
- Field testing performed by JK Muir
 - Pressure Readings
 - Flow Readings
 - Typical Operating conditions
 - kW Measurements
- Evaluation report quantifies cost savings associated with pump system improvements
- Testing includes detailed pressure, flow, and kW readings on individual pumps

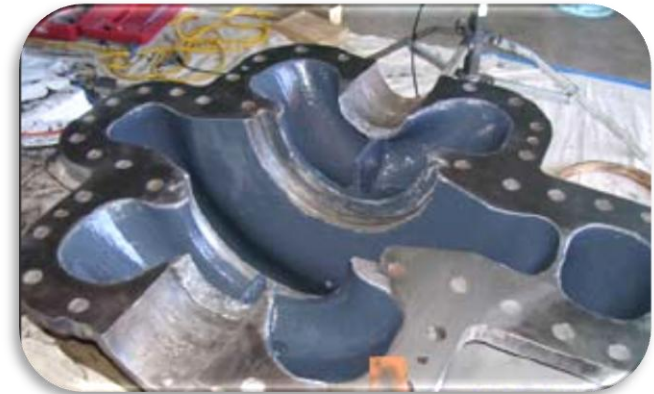


Incentive Program

- Based on benefit/cost screening subject to regulatory guidelines
- If savings could be achieved through:
 - Pump rebuilds
 - Replacement
 - Hydraulic/piping modifications
 - Control improvements
- Implementation costs can be offset by incentives available through National Grid or Eversource

Coatings

- National Grid & Eversource are collecting data on the effectiveness of pump coatings
- National Grid & Eversource have partnered with Chesterton for specification and application of coatings
 - Chesterton can also perform the pump rebuilds
- This program also includes the opportunity to increase pump efficiency and wear resistance through the application of coatings
- Application of coatings is also eligible for incentives



Next Steps

- Customer selects best sites for field testing of pumps
 - Roto-dynamic pumps with at least 40Hp motors and significant run time (2000 hrs. annually)
 - Pumps that may be in need of repair or replacement
- Field testing is conducted
- Opportunities for savings are quantified for the Customer
- National Grid & Eversource to provide incentive offer based on screening
- Customer can choose to move forward with rebuilds, coatings, or other system improvements

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