Water and Wastewater Pumping System Optimization Pilot Study Program
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 performed
  - 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

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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

[Images of pump systems]
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
Contacts

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