

SAG Energy Efficiency Ideas

Operations and Maintenance Proposal for Electrified Homes

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ELEVATE

Elevate's Mission

We design and implement programs that reduce costs, protect people and the environment, and ensure the benefits of clean and efficient energy use reach those who need them most.

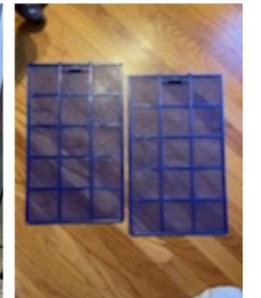
Operations and Maintenance Proposal for Electrified Homes

Description - Power Monitoring and Equipment Service, “Clean and Check”

- Incentives (or R&D pilot) for power monitoring post-retrofit performance of electrified appliances for homes that have recently participated in an electrification program retrofit.
- Provide twice a year “clean and check” service contracts for heat pumps for customers that have participated in an electrification program free of cost for at least 3 years after the initial installation.

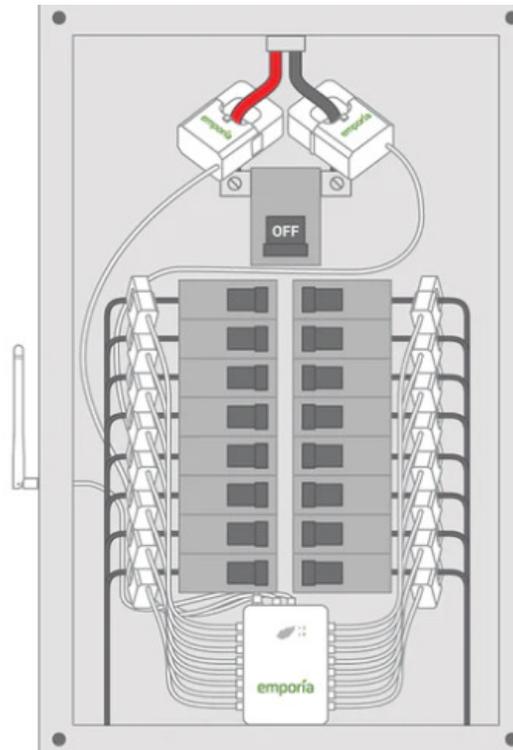
Power Monitoring and Equipment Service, “Clean and Check”

- This is specifically relevant for existing Income Qualified Residential Programs.
- Benefits would be possible for market rate.
- Could be relevant for any utilities incentivizing heat pumps. Primarily Electric Utilities – ComEd, Ameren
- Could be coordinated with diverse workforce development (heat pump equipment annual service contracts)



Power Monitoring

- A power monitoring device measures power consumption to support energy-saving activities.
- Installed by Electrician
- Programmed by an Engineer
- Recommend at least one year of monitoring electric load



Source: Emporia

Power Monitoring

- Power monitoring affords the ability to confirm a change in efficiency in real time, and that the equipment is working optimally.
- Any issues identified and addressed through power monitoring improve operations that can have significant energy costs and usage savings for customers annually (i.e. opportunities to address thermostat settings, or even find out about a water leak!)
- Opportunity to add "lockouts" on thermostats and improved analysis. With real time data these setpoints can be optimized per site.



Source: Emporia

Equipment Servicing – “Clean and Check”

- Every 6 – 12 months.
- Filter cleaning, condensate pump cleaning, condensate drain trap cleaning and a check of all auxiliary equipment.
- Outdoor equipment should be checked by professional.
- Could be performed by installing contractor or a different firm. (workforce opportunity)
- Opportunity to influence customer behavior and operational education (thermostat settings, comfort, filter cleaning seasonally)



Rationale – Equipment Servicing -“Clean and Check”

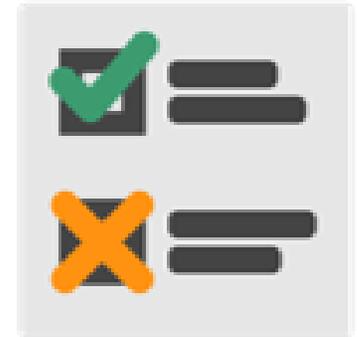
- When filters become dirty this results in pressure drop due to friction. Friction loss has an exponential effect on power required and affects-expected design airflows, temperature differences and ultimately the efficient delivery of the conditioned air.
- Clean, well-maintained equipment generally operates more as the design intended (more efficiently) and generally preserves or increases the expected serviceable life span of the equipment.
- It likely is one of the most cost-effective activities that can be done after a new heat pump is installed and throughout its lifespan.
- Note that a “clean and check” service visit is separate than post 1 to 3-year warranty from installing contractor.

Operations and Maintenance Benefits

- Savings from operational benefits including cost savings which could be 5-10% or more.
- This will enhance customer experience and improve satisfaction of heat pumps and electrification packages
- The main objectives of the proposed monitoring, evaluation, and clean and checks, is to protect consumers from higher than necessary electric bills after electrifying their home, and to support the successful adoption of heat pump technology in Illinois

Equitable Program Design

- In the event there are systemic issues that lead to significant inefficiencies in technology use, it is critical that those be caught and corrected.
- Customers who are often experiencing energy burden, should not experience an increase in bills due to improper operations that can be avoided.
- Providing this monitoring, support, and evaluation is therefore a key component of equitable program design.



Thank You

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