

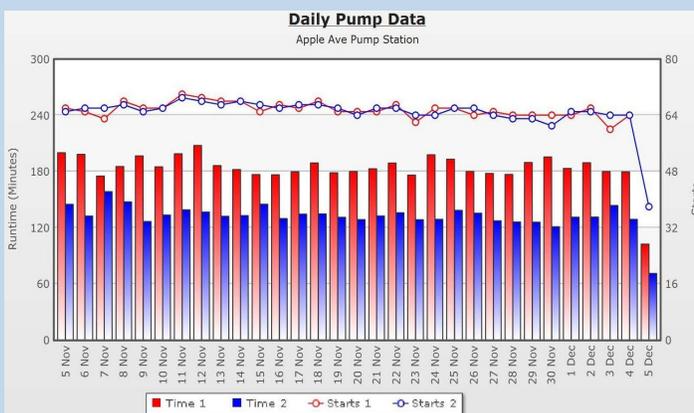
## Flygt N Pump and Energy Audit Proves Savings!

**Problem:** Routine maintenance and repair costs were increasing with the aging pumps at the City of Muskegon's Apple Avenue lift station. In fact, pump #2 had completely failed and the high repair quote caused the City to look for alternate solutions.

**Solution:** Kennedy Industries provided a quote to replace the existing channel, single vane pump with Flygt's N-impeller and offered to perform an energy audit on both pumps, once the new pump was installed. Flygt's N-impeller pump has proven to virtually eliminate clogging and provide at least 25% energy savings.

In this case, the existing pump #2 was 25 HP and rated 56% efficient at the duty point. Kennedy's offering was 15 HP and rated 78% efficient, meeting the same duty point criteria.

The City of Muskegon accepted Kennedy's offering and the new Flygt pump was installed next to existing pump #1 and a specific energy analysis was performed. Not only did the new pump provide a higher flow rate at the time of testing, it also used less input power. The test resulted in 37% less energy consumption by the new Flygt pump. The energy savings was further proven one month later. Using the City's SCADA system, it was observed that the existing pump #1 discharged 5.53 MG and ran for over 6,000 minutes. Pump #2 pumped over 5.71 MG in less than 4,400 minutes. This was a savings of nearly 27 hours of run time and a 35% savings in the monthly energy bill.



Run times of existing pump vs. new pump

When comparing the operating points on the two pump curves, it becomes apparent that the new pump will reduce unnecessary repair cost for years to come. Pump #1 was running at 35% of B.E.P., which is well outside the allowable operating range set forth by the Hydraulic Institute (HI). This can lead to vibration and increased wear on bearings and mechanical seals. The new pump ran at nearly 74% B.E.P. which falls within the preferred operating range set forth by HI.

### Product Features:

- Patented "N" Impeller Technology
- Reduced Maintenance and Repair Cost
- Less Expensive Pump to Purchase
- Oil less Seal Chamber
- Reduced Energy Cost
- Increased Pump Life