

Executive Summary

MyVIE sensors were outfitted to dozens of high-value assets in a high reliability data center. Periodic inspection of an Emerson 30 HP motor with VFD had previously found the motor operating within normal ranges. MyVIE detected high, intermittent vibration levels which further increased over time.

MyVIE determined that most of the vibration energy was associated with ramp up/down - a condition unlikely to be detected by periodic inspection. MyVIE alerted maintenance personnel and recommended a bump test during a next, scheduled downtime to further evaluate.

Within 4 months following installation MyVIE:

- **Reduced the risk of unplanned downtime from an issue undetectable by normal inspection procedures.**
- **Eliminated rebuild costs and delivered 8x RoI by recommending specific inspection items.**
- **The overall loss prevention within 4 months paid for the entire installation and service for a year.**

The Facility

Our customer operates a large, high-reliability data center facility in the Eastern U.S. The facility used a combination of periodic, visual inspection and a preventative maintenance protocol to maximize reliability and to minimize unplanned downtime of critical environmental control infrastructure. The customer’s objective was to reduce the cost of maintenance and repair without sacrificing asset reliability by using MyVIE’s precision condition monitoring and prognosis personalized for each asset.

MyVIE Installation

Dozens of MyVIE sensors were outfitted to pumps, motors and chillers, critical to the cooling operation of the facility. Connectivity was quickly established via our gateway and wireless service. The MyVIE system then baselined each asset’s operation.

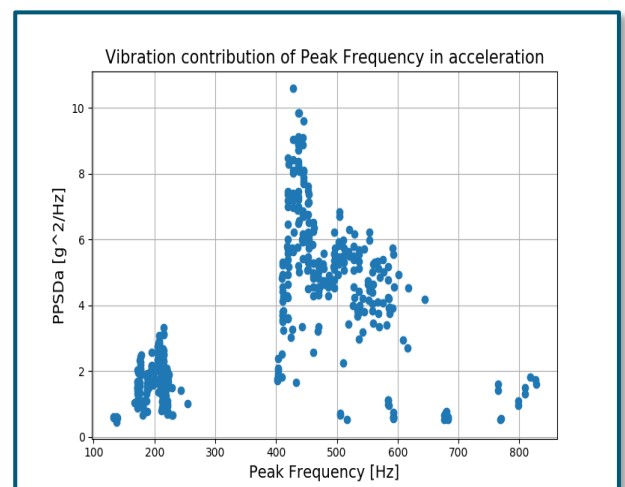
Degradation of a 30HP Motor

One of the assets being monitored was an Emerson R355 3-phase, 30 HP motor driving a Bells & Gossett pump. The motor was powered with a variable-frequency drive (VFD).

During the baseline period, MyVIE found that the motor had above normal vibration levels with peaks contributed by VFD harmonics. Within a few months, vibration levels began to exceed 2g with intermittent peaks above 3g. During this time, maintenance personnel continued to perform visual inspection and did not report any unusual findings.



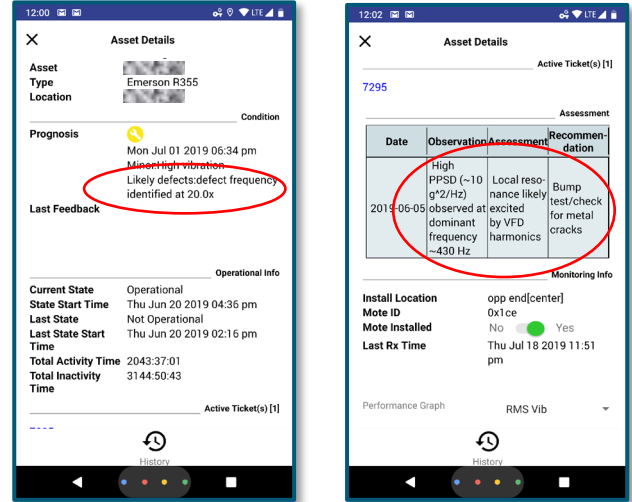
Emerson 30 HP Motor



430Hz resonance

By collecting and analyzing additional data, MyVIE determined that most of the vibration energy was centered around 430Hz, a harmonic not associated with normal runtime operation but with a VFD harmonic present during ramp-up and ramp-down. In this facility, although these ramp-up and ramp-down events occur regularly, they would be unlikely to occur during normal, visual inspection.

MyVIE presented an alert to the maintenance team including a summary of the machine current condition (high levels of vibration at 20x), supporting data and a recommendation for next steps (bump test).



Conclusion

Within months of installation, MyVIE delivered critical value for our customer’s operation. Via 24x7 precision predictive visibility, MyVIE was able to detect an important reliability risk which was not being detected during periodic, physical inspection.

With condition information and maintenance recommendations in hand, our customer was able to schedule the right technicians to perform the right physical diagnostic test during a maintenance window when the asset was already scheduled to be off-line.

Using MyVIE predictive application on this 30 HP motor allowed the facility to avoid a potential asset failure resulting in unplanned downtime and the most cost-effective maintenance possible.

About MyVIE

The MyVIE Runtime Solution is a personalized, industrial maintenance system which increases asset reliability while reducing maintenance cost. A process-in-a-box, MyVIE provides everything needed to modernize and optimize a maintenance operation – hardware, connectivity, cloud analytics and an intuitive, condition and incident management app. Beyond improving operational effectiveness, MyVIE provides the governance solution that facilities need to remain in compliance with safety, regulatory and industry requirements.