

July 18, 2019

TMK-IPSCO

Subject: July vibration service report

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Most of the machines surveyed were found to be in good condition with the exception of the following:

**QualiTest®** uses a four step rating system for defects.

**Class I:** Defect is present, but effect on reliability is not clear; no immediate action is required. Continue to normally monitor.

**Class II:** Defect (s) present that may cause problem in long term (2-6 months.). Repair during normal maintenance scheduling. Continue to monitor.

**Class III:** Defect (s) present that may cause failure in short term (less than 2 months.). This should be addressed as soon as practical, with a high maintenance priority. Increase monitoring frequency.

**Class IV:** Defect (s) present that makes continued reliability unpredictable, and possibility of secondary damage is high. Repairs should be made ASAP. An unscheduled shutdown should be considered for repairs

**Hi-Speed Industrial Service** tests and inspects industrial machinery and equipment and makes recommendations concerning maintenance and repairs based on its experience in the field of industrial repair and maintenance. The information contained herein is provided as an opinion only, not as a guaranty or warranty of the matters discussed herein.

This completes our assessment of your equipment for this survey. Thank you for your business and don't hesitate to call if you have any comments or questions.

Sincerely,

David W. Shook  
Service Manager

**QualiTest®** Diagnostics  
Division of **Hi-Speed Industrial Service**  
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### **Detailed Defects**

#### **South Quench Pump**

The vibration appears to have increased again. It is above 1"/sec velocity peak. We recommend a thorough inspection. We expect to see a possible bent shaft, wear in the impeller and wear rings or something stuck in the impeller. Unit needs service as soon as possible.

**Rated a Class IV Defect.**

Note that only the Heat Treat Building was operating due to electrical issues.