

# THE MAINTENANCE METRICS TRAP

High activity doesn't always mean healthy equipment.

## WHAT WE MEASURE (ACTIVITY)



### PMs Completed

Planned maintenance tasks finished



### Work Orders Closed

Work identified, scheduled and closed



### Lubrication Routes Finished

Routes completed as scheduled

## WHAT THEY DON'T MEASURE (CONDITION)



### Contamination Levels

Why and how much contamination is in the system



### Lubricant Condition

Viscosity, oxidation, additives, degradation



### Bearing Health

Wear, fatigue, and damage



### Equipment Degradation

The rate at which assets are deteriorating



## RELIABILITY OUTCOME

All the activities are done...

**But is the equipment healthy?**



# ACTIVITY-BASED MAINTENANCE

FOCUSED ON DOING WORK



# CONDITION-BASED MAINTENANCE

FOCUSED ON EQUIPMENT HEALTH



## PM COMPLETION %

Measures if scheduled work was done



WHAT WE MEASURE

## ASSET HEALTH

Measures the actual health of equipment



## TASKS COMPLETED

Focus on completing a list of tasks



WHAT WE FOCUS ON

## MACHINE CONDITION

Focus on current condition and risks



## CALENDAR-BASED

Work is done at fixed time intervals



HOW WE SCHEDULE

## DATA-BASED

Work is driven by real-time or trended data



## ASSUMPTIONS

Assume equipment is OK until it fails



HOW WE DECIDE

## VERIFICATION

Verify condition and confirm what's needed



## SCHEDULED WORK

Work is done because it's on the schedule



RESULT

## CONDITION-INFORMED DECISIONS

Work is done when needed and it will add value



**MORE ACTIVITY DOES NOT GUARANTEE RELIABILITY**



**BETTER INFORMATION DRIVES BETTER RELIABILITY**

The goal isn't to do more.

The goal is to do what matters.



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# BEYOND THE CHECKLIST



## EXTERNAL INSPECTION

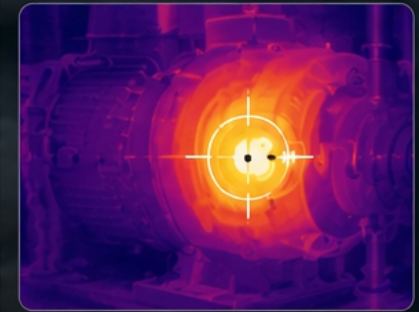
Everything looks normal

**PM WORK ORDER** COMPLETE ✓

- Inspect Equipment
- Check Oil Level
- Grease Bearings
- Inspect Seals
- Check Coupling
- Clean Area

Work Order Closed

## THERMAL IMAGING ⚠️



**⚠️ HOTSPOT DETECTED**  
176°F at bearing housing

## VIBRATION TREND ⚠️

Overall Velocity (in/s)



**⚠️ TREND INCREASING**  
0.24 in/s (Alert Level)

## OIL ANALYSIS ⚠️

ISO Cleanliness Code

**21/19/15**  
(HIGH)

Water Content  
**245 ppm**  
(HIGH)

Viscosity @ 100°C  
**13.2 cSt**  
(LOW)

**⚠️ OIL CONDITION POOR**  
Contamination, moisture, viscosity

## THE REALITY



Hidden issues are already affecting reliability.



You can't manage what you don't measure.

