

A Hidden Financial Advantage of Predictive Maintenance: Lower Business Insurance Rates

By Michael Jones, Reliability Engineering Manager, Apex Reliability Engineering

I. Executive Summary

Predictive Maintenance (PdM) is widely known for helping companies reduce downtime, extend asset life, and increase operational efficiency. But there's a lesser-known benefit gaining traction in boardrooms and insurance underwriting offices alike: lower business insurance premiums.

Insurers increasingly recognize the link between proactive asset management and reduced claim risks—especially in industries where equipment failure can lead to fire, injury, or costly production losses. Facilities with robust PdM programs not only reduce equipment-related hazards, but also present a significantly improved risk profile, which can result in discounted premiums, improved coverage terms, or both.

This whitepaper explores how a well-documented PdM strategy can strengthen your risk mitigation case, influence insurer confidence, and unlock measurable savings in your annual policy costs.

II. The Expanding Role of Predictive Maintenance

Predictive Maintenance goes far beyond scheduled upkeep. It uses data-driven diagnostics—such as infrared thermography, ultrasonic testing, vibration analysis, and motor circuit evaluation—to detect potential failures before they occur.

As more facilities adopt PdM as part of an integrated reliability strategy, the conversation is shifting from “Why use PdM?” to “How far can PdM reduce risk, cost, and liability?”

At Apex Reliability Engineering, we've seen firsthand how PdM reduces total maintenance costs while enabling safer, leaner, and more accountable operations. And now, insurance savings are becoming a tangible part of that return on investment.

III. Insurance Risk and Premiums: What Matters to Underwriters

Commercial insurance premiums—especially for property, equipment breakdown, and liability coverage—are based on perceived and historical risk. Underwriters consider:

- Fire hazards (often linked to electrical faults)
- Mechanical failures (leading to expensive claims)
- Workplace injuries (linked to unexpected equipment malfunctions)
- Business interruption risks (production losses, spoiled goods, etc.)

Facilities that can prove proactive risk mitigation—through inspections, diagnostics, and reporting—are far more attractive to insurers.

IV. How Predictive Maintenance Reduces Insurable Risk

Here's how PdM programs deliver measurable insurance-related benefits:

- Fire Prevention: Infrared thermography detects overheating in electrical panels, overloaded circuits, or failing bearings—key sources of electrical fires.
- Reduced Mechanical Failures: Vibration and ultrasound monitoring identify faults before they lead to catastrophic equipment damage or collateral loss.
- Lower Worker Injury Rates: Failures often cause mechanical hazards and sudden energy release. PdM minimizes these events, reducing liability exposure.
- Improved Traceability: PdM logs, reports, and photos offer excellent documentation in the event of an incident or audit.
- Compliance Alignment: Programs often follow ISO 55000, ISO 18436, and NFPA guidelines—further improving insurer confidence.

V. Real-World Scenarios: PdM in Action

Electrical Fire Avoided: A food manufacturing plant used infrared inspections to identify a hot terminal inside a main disconnect. The terminal was 60°F hotter than recommended, indicating a fire risk. The repair cost \$45. Had it failed during production, the cost could've exceeded \$100,000 in fire, downtime, and insurance claims.

Equipment Breakdown Mitigated: Ultrasound revealed early-stage bearing degradation on a conveyor motor. The team scheduled an off-shift replacement, avoiding catastrophic failure and a two-day line shutdown. Insurance underwriters recognized this as evidence of advanced reliability practices.

VI. What Insurers Look For

To qualify for reduced premiums or improved terms, facilities should present:

- PdM SOPs and documented inspection schedules
- Certified training credentials (e.g., CMRT, ISO 17024)
- Asset condition monitoring reports and logs
- Equipment-level risk assessments
- Evidence of fault prevention (photos, trend analysis, service history)
- Third-party reliability audits or consulting reports

At Apex, we help clients build this documentation—not only to strengthen reliability programs but also to communicate value to insurers.

VII. How to Talk to Your Insurer About PdM

Ask:

- Does our current policy offer risk-based incentives for proactive maintenance?
- Can a certified Predictive Maintenance program influence our premium structure?
- What type of documentation or data would your underwriting team find helpful?

Provide:

- PdM program overview
- A sample report showing how a failure was prevented
- ISO compliance or certification documentation

- Photos or logs showing thermography, ultrasound, or vibration analysis

Even if your current insurer doesn't offer a discount yet, they may reconsider with supporting evidence—or you can leverage it during competitive bidding.

VIII. Bonus ROI: PdM Pays Twice

Predictive Maintenance already delivers ROI through:

- Fewer emergency repairs
- Longer asset lifespan
- Improved uptime and efficiency

But when you factor in the potential to cut insurance premiums by 5–20%, it becomes clear: PdM doesn't just protect equipment—it protects your bottom line in more ways than one.

IX. Conclusion

Predictive Maintenance is a strategic investment—not just in operational excellence, but in enterprise-level risk management. It reduces hazards, improves safety, and strengthens your position with insurers.

As insurers evolve to recognize PdM's role in lowering claims and losses, now is the time to position your program not just as a maintenance strategy—but as a financial risk management tool.

About the Author

Michael Jones

Reliability Engineering Manager, Apex Reliability Engineering

With over a decade of hands-on experience in industrial maintenance, predictive diagnostics, and reliability-centered operations, Michael leads Apex's mission to transform maintenance from a cost center into a strategic asset. Apex Reliability Engineering specializes in condition monitoring, LOTO audits, equipment calibration, and building scalable PdM programs that deliver measurable results.

Schedule a free PdM readiness assessment at SaltLakePdM.com or contact us at info@saltlakepdm.com