Driving Process Safety Improvement Through Mechanical Integrity Excellence

Process Equipment Reliability Database

Mechanical Integrity – Key to Process Safety

- Consistent process safety performance requires excellence in mechanical integrity (MI) systems

- The best MI systems are based on quality, verifiable data:
  - From your operations
  - Consistent across industry
  - Statistically validated and verifiable

- Can you imagine an industry-wide database of high quality, statistically validated data?

The Solution is PERD

- Imagine that your maintenance & reliability data is automatically uploaded, compared against whole-industry data, and made available to you with clear, statistically validated guidance

- It's not your imagination, it's **PERD**

"A rising tide lifts all boats". As the PERD boat rises, all participants will reap the benefits.

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The Solution is PERD

- PERD provides:
  - Practical approach and Consistent work processes for data collection
    - Sound theoretical foundation based on engineering fundamentals
  - Efficient software tools for data submission
    - S/W dedicated for use by participating companies
  - Quality assurance for data analysis
    - Identification and analysis of outliers
    - Defensible and auditable results

How do you measure up?

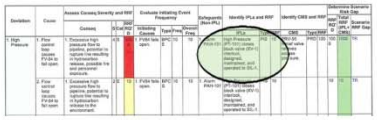
- Are your loss prevention systems providing the performance you expect?
- Have changes to asset and mechanical integrity improved or decreased process reliability?
- How do you get the most effectiveness from your mechanical integrity/maintenance program for your effort and expense?

What you need

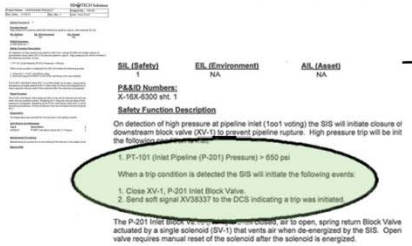
- Leverage existing IT and MI systems to collect and submit data
  - Reduce cost and complexity
- Networking/benchmarking opportunity to understand where you are relative to industry
  - Identify “low hanging fruit” to drive immediate impact
  - Identify and eliminate non-value added tasks
- Consistent approach to ensure “apples” to “apples” comparison
  - Understand where expended resources are providing the greatest benefit

How PERD Improves Your Performance and Efficiency

Layer of Protection Analysis (LOPA)



Safety Requirement Specification (SRS)

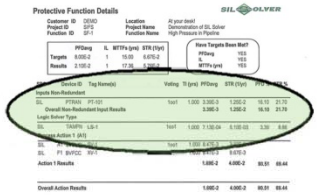


Everything begins with the hazards identification and risk analysis

PERD

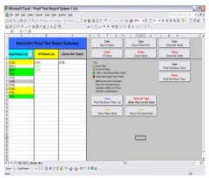
and ends with robust safety system layers

Calculations

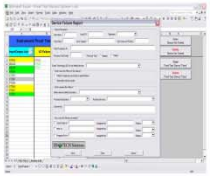


Industry Device pass/fail rate data

Test Results

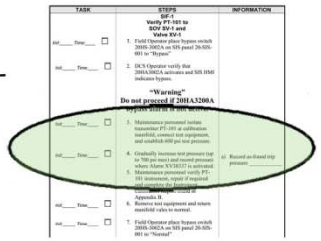


Device List



Device Failure Report

Proof Test Procedure



CREATED BY DR. ANGELA SUMMERS, SIS-TECH SOLUTIONS

Immediate Benefits of PERD

- More effective / efficient Mechanical Integrity/maintenance, greater reliability, and fewer incidents, with a very small investment via:
  - Access to fundamental technical information
  - Access to work process knowledge
  - Replacement of data mining (costly) activity with on-going integrated data harvesting
  - Support for applications/IT communication
  - Support for data analysis provided by leading academics
  - Facilitation of efficient high quality trusted data development

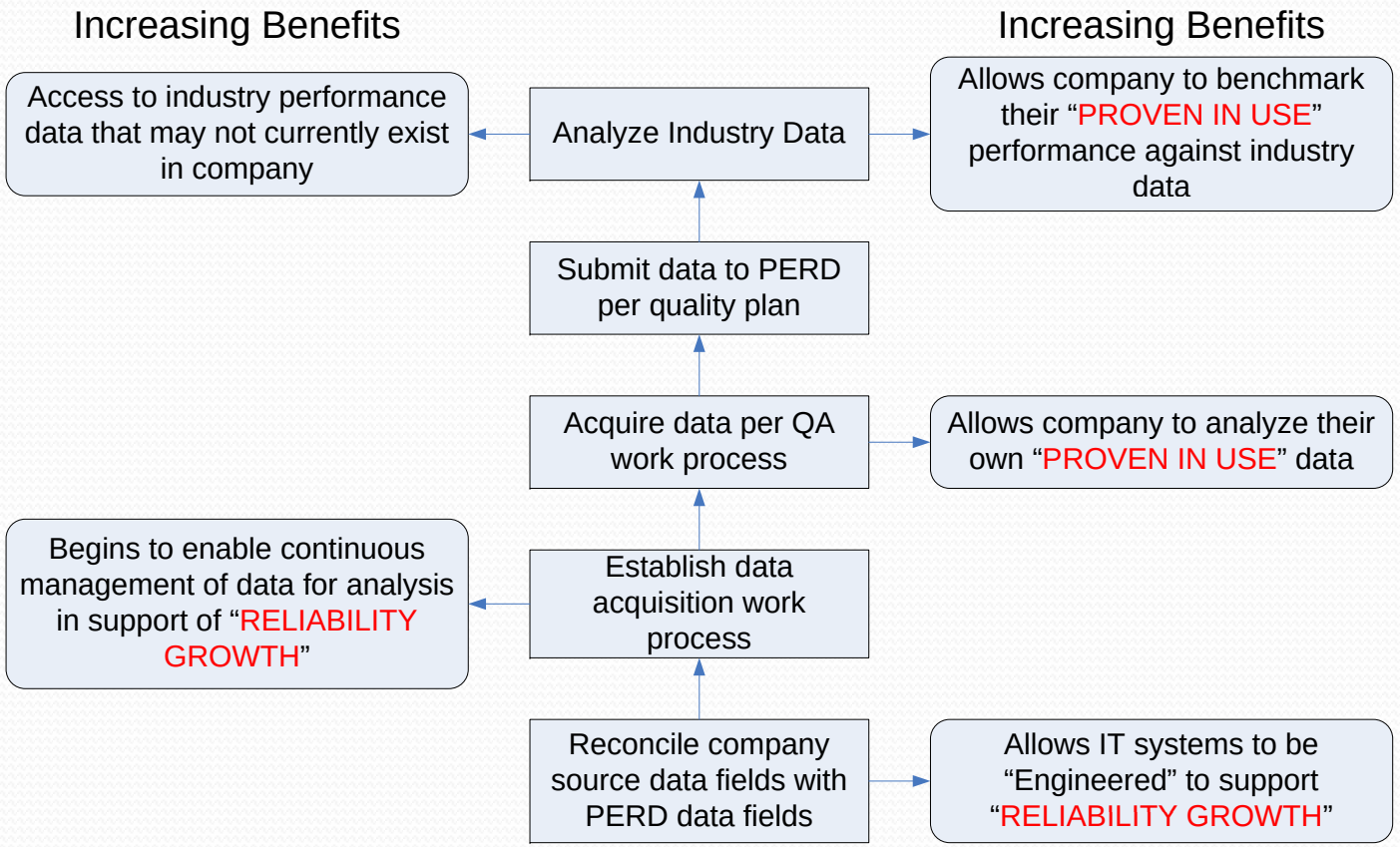
Longer term PERD benefits

- Yields information and data to support:
  - Selection of equipment (Proven in use)
  - Reliability analysis
  - Quantitative risk assessment
  - IEC 61511 compliance
- Data collection becomes part of operating culture eliminating “fire fighting” mentality

Longer term PERD benefits

- Benchmark company performance versus industry
  - Learning opportunity
    - Work processes and MI systems
  - Continuous improvement
    - Owner/operators and manufacturers
  - Customer satisfaction
    - Product stewardship
  - Reliability growth
    - Improved performance at lower cost

PERD Ladder of Success



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In Summary

- PERD provides you a roadmap to improved performance whereby you can:
  - Improve Information Systems Effectiveness
  - Create Value
  - Minimize unforeseen losses
  - Improve Regulatory Compliance Effectiveness

Enroll Now!!

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Questions / Discussion