



Project Management • Turnkey Services • Best Practices



AIMS | Asset Integrity Management Services

CENTER OF EXCELLENCE

Asset Integrity Management Services or AIMS, a MISTRAS Center of Excellence, refers to the management system that enables plant owners to maintain the integrity of its assets in a Fit for Service condition for the desired life of the assets.

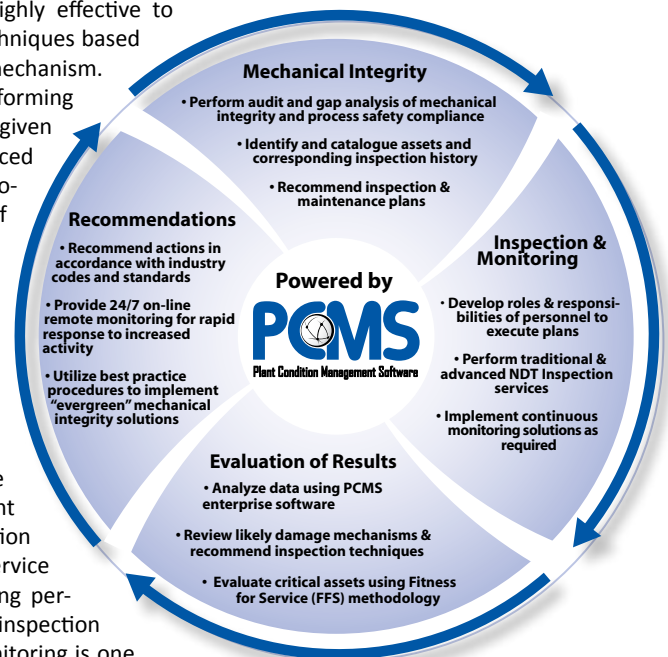
MISTRAS has developed a proven systematized method that creates a closed-loop cycle for addressing continuous asset protection and improvement. For example, the cycle begins with the development of a “customized” Mechanical Integrity program. MISTRAS interviews plant personnel to analyze current practices, the owner’s compliance with current regulations and compare these to world class best practices. After cataloguing the assets, an inspection program is developed and the assets are uploaded into our PCMS inspection database.

The cycle continues with the actual inspection and monitoring of the identified assets. We utilize a combination of traditional and advanced NDE techniques to perform the data gathering required in these inspections. For critical assets that exhibit some damage we can offer the ability to continuously monitor the asset using Acoustic Emission, Vibration, Strain Gauging or other sensors that have the ability to stream data.

After the data is gathered, we evaluate the results based on rule based decisions that are imbedded in our PCMS software. We can analyze the data using time and condition based methodology such as prescribed in API standards 510, 570 and 542 or using Risk Based Inspection (RBI) methodology. The RBI approach analyzes the potential risk of each asset in its current operating condition and then allows the user to choose from highly effective to least effective inspection techniques based on the anticipated damage mechanism. MISTRAS is capable of performing any one of these techniques given our wide variety of advanced and traditional NDE technologies. The associated risk of each asset is lowered by using the most highly effective inspection technique.

The cycle moves on to the recommendations based on the inspection plan and data. High risk assets that exhibit potential damage may require more frequent and customized inspection plans based on Fitness-for-Service engineering calculations being performed that considers the inspection data generated. On-line monitoring is one

of our potential solutions for these “At Risk” assets. Furthermore, industry best practice solutions may be implemented at this stage as an “Evergreen” solution.



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Engineering Services

- Fitness for Service (FFS) Evaluation
- API 571 Damage Mechanism Review
- Materials/Corrosion Expertise
- Facility Circuitization/Systemization

Mechanical Integrity Services

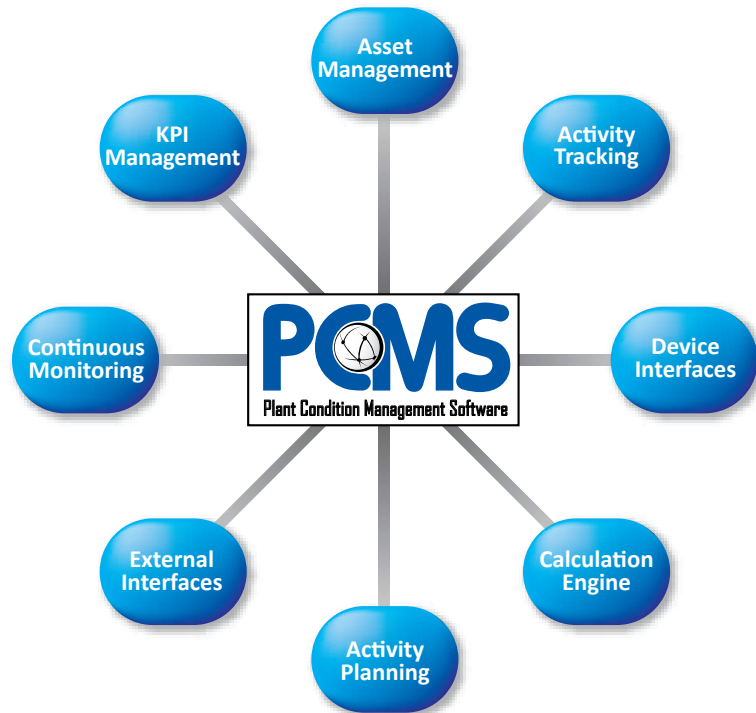
- Mechanical Integrity Program
- Development
- Mechanical Integrity Audits
- OSHA Compliance Assessments
- Condition Monitoring Location
- Optimization

Risk Based Inspection

- RBI Assessments
- Evergreen RBI Implementation
- RBI Data Validation
- RBI Database Configuration

Turnaround Management

- API Visual Inspection
- Turnaround Planning
- Turnaround Management
- Turnaround Execution



PCMS™ | Plant Condition Management Software

PCMS™ is a comprehensive software application developed specifically to assist facilities implement effective mechanical integrity and process safety programs. In use at refineries, chemical plants, production & exploration facilities, and inspection service companies worldwide for over 20 years, PCMS™ offers best practice solutions developed by an active User Group. Annual User Meetings ensure PCMS™ meets ever-changing regulations and supports leading-edge technologies. Benefits include the following:

FEATURES AND BENEFITS:

- Store asset data and control documents in one place, reducing redundancy and streamlining record keeping
- Maintain design and operating characteristics for fixed, electrical and rotating equipment
- Capture activities such as inspection reports, test results and maintenance requests
- Interface with data loggers, PMI (Positive Material Identification) equipment and PDAs
- Calculate corrosion rates, remaining life, due dates and risk rankings
- Plan future activity such as compliance inspections, maintenance activities & equipment tests
- Recommend effective inspection techniques and monitoring solutions
- Link to maintenance management systems such as SAP, Maximo and EMPRV
- Link to continuous monitoring applications to pro actively identify potential problems
- Provide KPI (Key Performance Indicators) to benchmark asset and facility performance

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