ISSN: 2320-5407

International Journal of Advanced Research

Publisher's Name: Jana Publication and Research LLP

www.journalijar.com

REVIEWER'S REPORT

Manuscript No.: IJAR-59828

Title: Development of a Risk-Based Asset Integrity Management Model for Steam Turbines, Compressors and Industrial Pumps in Oil and Gas Facilities.

Recommendation:

Accept as it is .....

Accept after minor revision.....

Accept after major revision .....

Do not accept (*Reasons below*) .....

Rating	Excel.	Good	Fair	Poor
Originality		✓		
Techn. Quality		✓		
Clarity		✓		
Significance		✓		

Reviewer Id: JPR-368

Reviewer's Comment for Publication.

The manuscript presents a relevant and technically meaningful conceptual framework for risk-based asset integrity management of steam turbines, compressors and industrial pumps in oil and gas facilities. It provides a comprehensive discussion of equipment-specific failure mechanisms, condition monitoring techniques, prognostics, data quality, risk prioritisation and integrity governance. A notable strength is the distinction between diagnostic accuracy and actual risk reduction in industrial operations. The proposed six-function model integrates equipment hierarchy, failure-mode identification, contextual monitoring, consequence-sensitive risk assessment, authorised intervention and outcome verification. The manuscript also appropriately acknowledges that the framework is conceptual and has not yet been empirically validated. The discussion of uncertainty, major-hazard consequences and independent protection barriers adds practical significance to the study. Minor revisions are required to improve language consistency, technical terminology, reference formatting and the presentation of figures and tables. Overall, the manuscript addresses an important industrial engineering and process-safety topic and provides a useful foundation for future field validation.