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REVIEWER'S REPORT

Manuscript No.: IJAR-59830

Title: Integration of Predictive Analytics and Quality Management Systems for Early Defect Detection in Oil and Gas Pipeline Construction.

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-258

Reviewer's Comment for Publication.

The manuscript presents a relevant and well-structured review of integrating predictive analytics with quality management systems for early defect detection in oil and gas pipeline construction. It provides a comprehensive discussion of welding process monitoring, radiographic and ultrasonic inspection, machine learning applications, data traceability, risk-based prioritization, and Quality 4.0 practices. A notable strength is its clear distinction between defect prediction, inspection findings, and formal acceptance decisions, while emphasizing the importance of independent inspection and engineering accountability. The proposed integration framework is practically relevant and addresses important challenges, including rare safety-critical defects, model uncertainty, data quality, contractor variability, and prospective validation. The discussion of research gaps and evaluation measures further strengthens the academic and industrial relevance of the paper. Overall, the manuscript makes a useful contribution to predictive quality management in pipeline construction. Minor revisions concerning language consistency, technical terminology, reference formatting, and the presentation of tables and figures would further improve its overall quality.