

## **IMPROVEMENT OF MAINTENANCE MANAGEMENT SYSTEM TO ENHANCE AVAILABILITY PERFORMANCE OF GAS PLANT: The case of Tegeta Gas Plant.**

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The purpose of undertaking this research on improvement of maintenance management system to enhance availability performance in Gas Power Plants was to identify the factors affecting availability performance, develop model, and develop the maintenance management system. The study adopted: qualitative approach for data collection and qualitative for qualifying the problem.

Questionnaires were used to collect relevant data from Gas Plant. Data were identified through literature through literature review. Data were analyzed using Ordinal regression analysis and SPSS software, version 20. The develop model was validated using data from Tegeta Gas Plant. The reliability and validity of the model was tested by comparing control block and treatment block data method. Through statistical tests, the model was found reliable and valid.

The case study identified factors affecting availability Performance in Tegeta Gas Plant. However, from the broad range of factors used, the best analysts of availability performance were found to be: management commitment, maintenance awareness, wages of personnel, experience of personnel, quality of spare parts, dimensional accuracy of spare parts, material strength of spare parts, equipment failure rates, human resource related factor and budget allocation.

The developed model can be used by Tegeta Gas Plants for predicting and exploring opportunities towards improving availability performance. Also the findings can be used by other similar Gas Plants

**M. Eng ( Sustainable Energy Engineering) Dissertation.**