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An Investigation of Maintenance Management of Construction Equipment for Residential Building

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Abstract - *The physical and personnel requirements are briefly presented, and the management control aspects discussed in detail. Implementation considerations are related and the substantial improvements achieved in overall fleet availability are documented. Finally, the integration of this system to the company's other accounting modules is outlined. The management of heavy construction equipment is a difficult task. Equipment managers are often called upon to make complex economic decisions involving the machines in their charge. These decisions include those concerning acquisitions, maintenance, repairs, rebuilds, replacements, and retirements. Repair and maintenance expenditures can have significant impacts on these economic decisions and forecasts.*

Key Words: **Requirement, Aspect, Implementation, Integration, Rebuild.**

1. INTRODUCTION

The greatest influence to construction cost occurs at the front end of the project. Assumptions made by design engineers during the conceptual and design phases of a project dictate the choice of equipment that will be used for the particular project, just as it will dictate the choice of materials used in construction.

In today's competitive manufacturing market, production efficiency and effectiveness are among top business priorities. Thus, production equipment becoming the central focus of interest as it is the backbone of the manufacturing process and key performance indicator of productivity. The requirements of outstanding performance force companies to substantially consider reducing their machines downtime frequency and its consequential costs.

1.1 LITERTURE REVIEW

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1.2 SCOPE

An Investigation of Maintenance Cycle of Construction Equipments to Reduce Breakdown Time on building construction project. The objective of this thesis is to study the various maintenance management practices that are currently being employed by large construction sector and to identify the best practices for effective maintenance management. This study will help to understand the maintenance phenomenon and factors responsible for better efficiency and less operating cost of owning and operating by reducing the downtime of equipment be used.

2. METHODOLOGY

Different tasks related to equipment are required to be studied in details. Therefore analysis the tasks based on B.O.Q. in same following areas requires due consideration.

- Nature of task and Specification.
- Daily or hourly forecast of planned production.
- Quantity of work and time allowed for completion.
- Distribution of work and time allowed for completion.
- Distribution of work at site.
- Interference expected and interdependence with other operation.

Fig -1: Excavators (JCB)

3. CONCLUSIONS

Equipment plays an important role in today's construction projects which is more demanding need to be completed in stipulated time with best Quality. The cost of equipment in a project varies from 10-30 % of the total cost of project, depending upon extent of mechanization. Proper planning, selection, procurement, installation, operation, maintenance and equipment replacement policy plays important role in equipment management for successful completion of project.

From data collected it is seen that Equipment Utilization on site has to be Studied in details. There can be various reasons which ultimately affect the overall productivity in construction activity on the project. Mainly Due breakdown more loss in time and money is occurred. We can minimize these losses by using proper maintenance schedule per Equipment.

In above table we seen the Preventive Maintenance Required for Maximum Equipment's, Because of **only Reactive Maintenance Used** on site contractor loss in production, loss in time, & loss in rupees occur. Other type of maintenance also required for some equipment, & some equipment's are old so replacing new equipment wherever required. Proactive and Predictive Maintenance are also helpful for minimizing failure of equipment, Generally **Preventive Maintenance** required for each Equipment, Preventive maintenance is best type of maintenance because the failure & accidents are minimize & also cost of maintenance will be reduce.

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