



To study the approach construction management towards Repair And Maintenance of the Building

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Abstract : This paper examines the relationship between building and property management and building management systems. Understand the concept of building management. Building management is a specific economic activity, a set of servicing, operating, repairing, and maintaining the property. It is the sum total of legal and technical measures necessary for structural maintenance, maintenance of usable condition, and appropriate maintenance in order to ensure proper use of the property. The purpose of this work is to conduct a literature search on different approaches to the definition of building management and building maintenance. A common theme identified through the analysis is the many terms and their definitions that appear when looking at facility management and maintenance processes. Continued growth in socially responsible building management indicates the need for more effective building lifecycle management systems to enable sustainable residential property development.

IndexTerms - Building management, maintenance, preventive maintenance, residential building information, building management system, intelligent buildings, Smart Grid system.

I. INTRODUCTION

Repair is the process of undoing broken damage, broken devices, equipment, and repairs. Several types of repairs, including repairing defects such as cracks and plaster chips, repairing doors, windows, and replacing glass panes. Electrical cable testing and repair. Maintenance is committed to improving all facilities in all parts of industrial buildings. It is important to maintain the utility value of facilities by setting accepted standards of service and environment.

Today, industrial buildings face many problems in repair and maintenance. Various techniques are available on the market to inspect and repair various defects. We, therefore, offer technical systems that are efficient and reduce repair and maintenance times. There are different types of industrial buildings such as production buildings, breweries, mills, factories and chemical buildings. Industrial buildings present many problems related to repair and maintenance work. At this time, if there is a sudden shortage of manpower in the industry, it will not be possible to meet the work requirements in sufficient time. To circumvent these problems, we have developed new systems or techniques called "repair and maintenance applications". Timely maintenance and proper repair of any type of industrial building protects them and provides a comfortable and comfortable working environment. The application is easy to use for site engineers and other repair and maintenance workers.

The main purpose of this paper is to define a conceptual model of quality control in order to identify, assign, account for, and appropriately correct defects that arise during the execution phase of industrial construction projects. This model is then implemented in web-based tools to facilitate access to stored information (SIDEM). The system can collect error data in the field and effectively manage the status and results of corrective actions performed. The proposed SIDEM would provide a structured data repository where data could be located and maintained in real-time by various project stakeholders, enabling seamless information gathering and rapid decision-making for corrective action when problems are found. enable decisions. Describes problems commonly encountered in maintaining or managing building assets and their possible causes. With proper background knowledge, builders can better assess the condition of their property.

II. AIM

- To do a Survey of repair and maintenance work on industrial buildings. And find out the best way for industrial building repair and maintenance work.
- To study the Introduction of various types of repairs and maintenance to increase safety in industrial construction.
- Study of industrial building maintenance and find causes of industrial building maintenance.
- To understand Propose maintenance methods for industrial buildings with respect to construction management. Provide prompt and timely repair and maintenance facilities for industrial buildings.
- Investigate deficiencies in the maintenance and management system of the industry.

III. LITERATURE SURVEY

The main purpose of the literature survey is to gather information and better understand the topic of this research. We sought relevant journals, papers, papers, articles and books related to the topic of "Approaches to Repair and Maintenance of Industrial Buildings" and asked for assistance in conducting a literature review.

Jaladanki Sasidhar et al., (2017) From case studies and surveys of engineers and contractors, it was concluded that many engineers and contractors do not use management systems to manage materials, labor and machinery. The management system differs depending on the type of project. Therefore, using a management system can reduce delays and reduce costs for each project. To this end, a computerized management system has been developed and made available to engineers and contractors.

Prof. Dr. Oec., et al, (2016) This paper examines the relationship between building and property management and building management systems. The main purpose of maintenance is to protect the building during development and preserve the value of the investment in the property. During the management process, the building owner has to resolve several issues such as: B. How to effectively organize building management in accordance with existing regulations. The purpose of this work is to conduct a literature survey of different approaches to the definition of building management and building maintenance that are being considered in various scientific publications.

Bupe. G. Mwanza., et al (2015) The focus of this white paper was to develop an effective TPM model for improving the maintenance system of a chemical company in Zambia. The purpose of this study is to assess current maintenance systems, determine overall equipment effectiveness, and identify key performance indicators and success factors for TPMs. The result of this research is the maintenance department.

Othuman Mydin., et al (2015) The construction industry is characterized as a project-based industry with unique products and services. "The majority of current building maintenance strategies are budget constrained and involve planned or unplanned maintenance. Building maintenance decisions are a logical and rigorous process for determining which approach to building maintenance is the most appropriate and cost-effective.

Oseghale., et al (2014) This study focused on assessing the condition and maintenance of industrial assets, the maintenance strategies employed, and the impact of strategies on asset performance. The most common maintenance strategy used by Lagos State's construction and plastics maintenance sector was reactive maintenance. Further research can be done on industrial plant and machine maintenance practices.

IV. METHODOLOGY

4.1 RCM

RCM is described as a maintenance strategy that logically includes the best combination of reactive, preventive, predictive, and proactive maintenance practices. Rather than being applied in isolation, these maintenance practices are integrated and leverage their respective strengths to minimize life cycle costs while maximizing the operability and efficiency of assets and equipment. The RCM framework implements a variety of maintenance techniques, including scheduled preventative maintenance, condition-based maintenance, run-to-failure, and proactive maintenance techniques, to increase the likelihood that a system or component will function in the manner it is desired. Combine strategies in an integrated way. Operational context across the design lifecycle.

The RCM methodology was developed based on four main principles known as the pillars of the RCM philosophy. Smith and Hinchcliffe list these principles as follows:

- **Maintaining System Functionality:** This is the most important function of RCM. This allows us to systematically determine which instruments have which functions later in the process, rather than assuming a priori that each instrument is equally important. This is a trend that permeates current PM planning approaches.
- **Identify failure modes that can affect functionality:** Loss or non-functionality is the next consideration, as the primary goal is to maintain system functionality. Dysfunction comes in many sizes and forms and is not always a simple "yes/no" situation. At RCM, you have to answer.
- **Prioritization of functional needs (by failure mode):** The RCM process ensures that system functionality is maintained. You have the opportunity to determine, in a very systematic way, the order or priority in which you want to allocate your main goals and budget. means. In other words, "all features are not created equal", so all impairments and their associated components and failure modes are not created equal. Therefore, the importance of failure modes should be prioritized.
- **Select applicable and effective PM tasks for high-priority failure modes:** RCM identifies where (component), what (failure mode), and what priority to define a particular PM task. Create a systematic roadmap that shows where to go. All of this is driven by the premise of "preserving functionality". As a unique selling point, all potential PM tasks should be rated as "suitable and effective" in RCM.

4.2 RCM procedures

RCM is a step-by-step process, with seven steps proposed to systematically delineate the information required to finalize the maintenance programming:

Step 1: System selection and information collection.

Step 2: System boundary definition.

Step 3: System description and functional block diagram.

Step 4: System functions and functional failures; preserve functions.

Step 5: FMEA; identify failure modes that can defeat the functions.

Step 6: Logic (decision) tree analysis; prioritize function need via failure modes.

Step 7: Task selection; select only applicable and effective PM tasks.

The flowchart of maintenance task selection in the RCM process is presented below. It is especially useful to develop PM tasks for each selected and target failure mode.

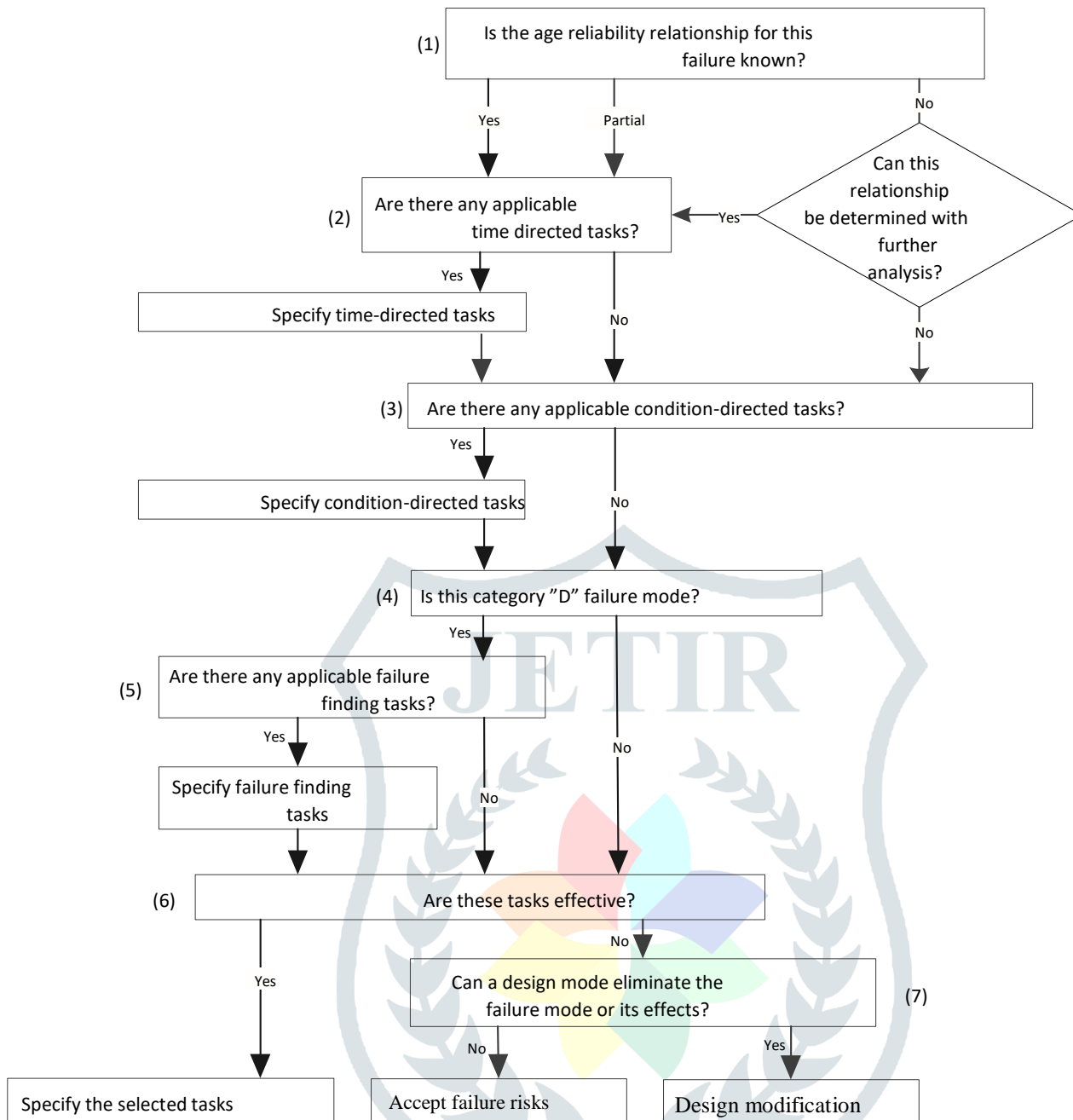


Fig 1: Task selection flowchart in RCM (adapted)

V. Maintenance’s Progress Diagram

The activity of maintenance evolved in the industrial companies considering the compromise that should be done between the needs and exigencies, from the technical, economic and human point of view. Until the 60’s the activity maintenance was synonym with the one of repairing the equipment being improved each time it was possible.

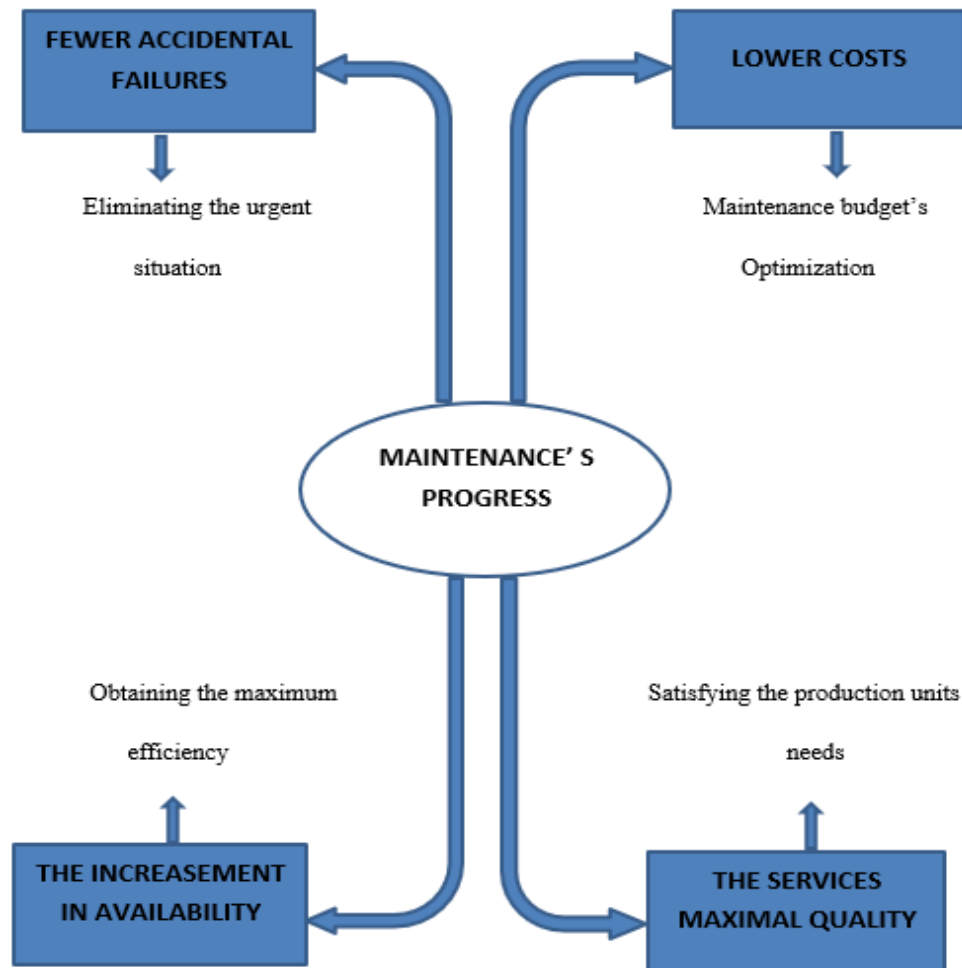


Fig 2: Maintenance's Progress Diagram

VI. CASE STUDY

Company name: AAKAR MDS

Address:

office: 2nd Floor, Siraskar Building, Baif Road, Wagholi, Pune-412207.

Workshop Building:2312-Plot No 10, Building No-05, MIDC Khopoli.

Civil Department: Mr. Onkar R. Patil (Department of Maintenance): He is senior engineer in the company. Handling a maintenance department with the team of 7 members. Maintenance is complete at site or in-house. It is done as per the requirement of work condition, Onkar Sir managing this all outdoor and indoor work.

6.1 Maintenance

- Designed for easy passage of camera and cleaning equipment, meaning that no individuals are required to access or clean the maintenance shaft directly. Water authorities are preferring to prevent person access to sewers for safety (hazardous gasses, confined spaces). Therefore, the system saves time spent on cleaning and inspection without endangering lives — making it safer.
- The PVC Maintenance Shaft is cost competitive, coming in several thousand dollars less expensive than concrete access manholes. Multiplied across all replaced concrete manholes in your system, this solution saves tens of thousands in the short and long term. The product is easier to install, when compared to a complex concrete formwork. Where a manhole may take 1-2 weeks, a Maintenance Shaft takes hours. There is no requirement of waiting for concrete to set, and each one can be installed concurrently reducing cost of labour and improving productivity.

6.2 Production

Central Axis Maintenance Shaft

- Centrally terminating configuration for more flexibility.
- 225mm or 300mm riser connections for flexibility in various authorities.
- CNC machine cut for accurate deflection and grade fabricated inlets.
- PVC material directly suited to 80% of Australia's sewer pipe systems.
- Ability to adapt to RRJ PVC or other pipe systems.
- Entirely Australian made, moulded to fabrication.
- Tested & analysed to requirements of WSA137.

Inline Maintenance Shaft

- Straight through maintenance shaft.
- Available with 225mm or 300mm Riser & Locking Cap.
- Available in 150/225/300mm.

Terminal Elbow

- End of line\Termination Elbow Maintenance Shaft.
- Available with 225mm or 300mm Riser & Looking Cap.
- Available in 150/225/300mm.

Maintenance Shaft Elbow

- Change of direction Maintenance Shaft.
- Available in any deflection 1-90o.
- Available with 225mm or 300mm Riser & Locking cap
- Available in 150/225/300mm.

Maintenance Shaft 45o Junction

- 45o branch line Junction Maintenance Shaft.
- Must be specified left or right (L or R).
- Available with 225mm or 300mm Riser & Locking Cap.
- Available in 150/225/300mm.

6.3 Summery Questions

1) Name of visit industrial building?

Ans- AAKAR Maintenance and Design Solution.

2) All details of industrial building & Address?

Ans- Address- Siraskar Building, Baif Road, Wagholi, Pune-412207.

3) Establishment of Industrial building.

Ans- Establishment Year- 1998.

4) Methods of Repair & Maintenance of building.

Ans- Local Temporary maintenance.

5) Labour is available or not?

Ans- No arability of labour

6) It is hazardous or not? It is feasible or not?

Ans- Sometimes big accidents are happened because of late maintenance.

7) Time or duration time of Repair & Maintenance of building?

Ans- Yearly.

8) Any supervisor/Appointment/Engineer is available for Repair & Maintenance?

Ans- No

9) Is there any separate department for Repair & Maintenance?

Ans- No

10) In your building, industrial waste is dust able & where it is discharged?

Ans- Backside of building. And discharged every month.

11) Which are the effect in absence of Repair & Maintenance?

Ans- Accidents happened and life is reduce.

12) Technique of Repair & Maintenance in your industry?

Ans- No specialized technique used.

13) In your industrial building, what are the duties of a Maintenance & Repair worker?

Ans- Cleaning Floor daily, Inspect regularly.

14) What is the Potential Risk that Repair work usually face?

Ans- Accidents increases.

15) Preventive measures & your solution of Repair & Maintenance work in your Industrial building?

Ans- Trying to appoint an officer for this task.

16) Which solution you have to do for Repair & Maintenance of your Industrial building?

Ans- Inspect regularly and take a action on time.

17) Which material is used for repairing work in your industry?

Ans- Cement, Oil, Colour, Pipe etc.

18) When suddenly problems will be occurred related to Repair & Maintenance, How to face this Problems?

Ans- We call to maintenance person.

VI. CONCLUSION

Repair and renovation of concrete structures are very difficult. Today, daily repair and renovation of concrete structures is a relatively new topic in India. Carrying out repair/rehabilitation work can be a real challenge when a structure has already suffered significant structural damage/degradation. Therefore, regular/timely evaluation and maintenance is required using the latest available technology and materials as described in this document. This is very useful in stopping decay and extending the life of structures. Corrective action can be selected depending on the severity of the environmental impact. Countries like India cannot afford to spend money to replace buildings. Therefore, selecting and evaluating appropriate repair materials and protective coatings saves enormous money and time by reducing frequent repair costs for already repaired concrete buildings/structures. Numerous polymers/admixtures have been tried and widely used in other countries to modify/improve the properties of concrete or mortar. Furthermore, repair/rehabilitation work should only be carried out after the cause of deterioration has been correctly identified. Before developing a repair program, it is imperative that the technician understand what led to the damage or deterioration of the Proper maintenance with frequent visual inspections can help many improvements As per this system our problems of industrial building many problems occurred related to repair and maintenance work. If any defect is suddenly occurred in the industry at that time requirement of labours is not fulfilled within the sufficient time. So, avoid these problems we have develop a new system or technology which is a Repair and Maintenance application. All these are solved and provide a healthy maintenance and repair services.

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