# KLM Technology Group Project Engineering

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Project Engineering Standard

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### RECORDING OF ROTATING EQUIPMENT HISTORY

(PROJECT STANDARDS AND SPECIFICATIONS)

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### SCOPE

This Project Standards and Specification covers the procedures that shall be followed for maintaining the history of various rotating equipment.

### INTRODUCTION

A systematic history recording is essential for proper maintenance of any rotating equipment. Preventive maintenance schedules and the predictive maintenance program all depend on the behavior of the machine. Considering these facts each piece of equipment shall have one history folder.

### **CONTENTS OF HISTORY FOLDER**

Irrespective of the type of equipment the history folder shall contain the following details:

- a. Complete specification sheet of the equipment
- b. Characteristic curves
- c. Maintenance schedules
- d. Standard clearance chart with the maximum and minimum limits.
- e. Maintenance history sheets
- f. Breakdown analysis sheets
- g. Vibration and shock pulse measurement long
- h. Complete spare part list with store code.

The detailed description about the history folder and its contents are given below:

### 1. History Folder

Each piece of equipment shall have one separate folder. If there is a spare, the history of each machine shall be maintained separately.

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### 2. Specification Sheets

The specification sheet is intended to provide the primary details required for the day to day maintenance of equipment. Standard specification sheets for this purpose for various equipments are given in Appendix III. In addition to the specification sheet in Annexure-III, detailed data shall be maintained using the forms given in respective API standards for the following:

a. Cengtrifugal compressors
 b. Reciprocating compressors
 c. Centrifugal Pumps
 d. Reciprocating Pumps
 API-610
 API-674

e. Steam Turbine - API-611 / API-612

### 3. Characteristic Curves

The characteristic curves are supplied along with the equipment. Copy of these curves should be available in the history book. These curves will be required for various trouble shooting jobs.

### 4. History Sheets

Standard history sheet common for all equipment is given in Appendix I. Various maintenance jobs carried out on the equipment, however, small shall be entered in the history sheet. The section "details of jobs" of history sheet should be filled up in three paragraphs. In the first paragraph with the sub-heading-reason for maintenance, second paragraph with the sub-heading-defects observed, third paragraph with the sub-heading action taken. In the paragraph "action taken", complete details of the job undertaken along with the various measurements taken and clearances kept shall be clearly recorded.

### 5. Breakdown Analysis Form

In order to avoid repeated failures all breakdowns shall be carefully analyzed. Standard breakdown analysis form is given in Appendix II. Breakdown analysis form is to be filled by the Engineer supervising the jobs.

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### 6. Vibration log

Vibration readings of all machines should be taken as per the frequency mentioned in the respective standards. These readings are to be filled in the standard proforma given in Annexure-IV. Separate proforma in Appendix V shall be used for vibration analysis.

### 7. Shock pulse measurement long

Shock pulse measurement reading of all machines should be taken as per the frequency mentioned in the respective standards. Readings are to be filled in the standard proforma given in Appendix VI.

### 8. Spare part list

The spare parts list should contain the complete spare part requirement of the machine along with store code number.

### 9. Maintenance schedules

Maintenance schedules for the equipment should be available in the history sheet as to ensure that the schedules are maintained.