

Maintenance (The Indian Scene)

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ABSTRACT

Maintenance is an undisputed essential activity in any organisation. Its analysis can be carried out as a philosophy persisting in the organisation due to its perceptions about it. The techniques followed also vary from mill to mill. Industries depending upon their culture, facilities and vision adopt suitable systems, philosophies and techniques to achieve their targeted goals in this field. Indian paper industry is widely diverse in sizes, use of raw materials, status of paper machines, products produced and approaches of management; and thus formation of a single philosophy is not possible in this regard.

PHILOSOPHY

- Maintenance is intended to look after the soundness and health of the equipment to give it maximum life and utility.
 - This does not mean that maintenance can stop the ageing process. It can only slow down, and that is needed, to get the maximum performance from equipment during its life cycle.
 - Machines not used, which is seldom the case, will last till their natural decay and disintegrate. When they are activated, by whatever means, their life and activity will depend upon how they are used and maintained.
 - Maintenance is not a debatable activity. It's only the systems and attitude towards maintenance that can be debated.
 - Maintenance is an inbuilt system for productivity. It is a vital link in the total productivity chain and hence should be given the same importance as is given to any other productive activity in the organisation.
 - All said and done maintenance is no exception to the culture and constraints under which an organisation works. It is the attitude, based on the perceptions, one has towards its relevance to overall productivity.
 - Man makes machines, man manages machines and it is the man who has to maintain the machines, to the best of this capacity and capability, to make them perform efficiently throughout their life-cycle.
 - People working in an organisation have different perceptions about maintenance.
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- i) To a Craftsman it is a thankless task to 'Fix'.
 - ii) To a Supervisor it is a strenuous activity to 'Get-Fixed'.
 - iii) To an Engineer it is a technique 'How-to fix and keep-it fixed'.
 - iv) To an Operator it is an activity for 'Reliable-Operations.'
 - v) To a Manager it is an activity for 'Getting-Maximum-Output.'
 - vi) To a Materials man it is 'Prick-to-keep-on-Toes'.
 - vii) To an Accountant its 'Cost-eating-into-profit'.
 - viii) To the Management its neither this nor that but a 'Tug-of War' between the accountant and the manager.
- It is infact this 'Tug-of-War' which decides the vision of management towards maintenance. If the accountant has an upper hand the visible financial results are quick but short-lived. If the manager wins, visible gains will be slow but long-lasting.

PERCEPTIONS

- Lot of maintenance techniques have been evolved since the Industrial revolution took place. Experts and consultants have defined these techniques in their own way.
- These techniques are:
 - i) Corrective : Fix-it when it breaks (Break down)
 - ii) Re-active : Fix-it when opportunity comes (Patch work)
 - iii) Curative : Fix-it when defective sign appears (stitch in time)
 - iv) Pre-dictive : Fix-it before breakdown (Forecast)
 - v) Pro-active : Fix-it on inspection (Do at right time)
 - vi) Preventive : Fix-it on schedule (Play safe)
 - vii) Pre-emptive: Fix-it in advance (Life-cycle)

- Many mills in India and may be in many other parts of the globe, where the pulp and paper Industries are based on old and out-dated technology and equipment, hardly follow any definite system/pattern of maintenance as given above.
- The reason is not that the managers or the craft-people do not understand the philosophy behind these systems but the culture and constraints, under which they work, do not permit them to stick to any of the above systems. This may be due to lack of understanding about the importance of assets maintenance.
 - i) Maintenance cost is not a sunken cost.
 - ii) To get the best from an equipment, economically and efficiently throughout its life-cycle, maintenance should be its integral part right from the time it is made till it is disposed off as scrap.
 - iii) Maintenance is linked to prospective productivity. To make it a "scapegoat", for all the other evils in the organisation is wrong.

TECHNIQUES

- As stated above lot of maintenance systems are existing advocated and followed by the industry throughout the world.
- Paper industry is complex in its structure. Its operations are hardly bound by any fixed parameters.
- Its basic inputs and the resultant output vary so widely in their characteristics that even if the processing equipment behaves in a prescribed manner the results will vary widely. (Acceptability levels for pulp/paper and paper products are quite high).
- In spite of its highly complex nature, the basic maintenance philosophy of a Pulp and Paper industry is no different than other industries.
- There is hardly any sense in arguing over the different maintenance methodologies as long as the ultimate aim remains the same. 'Management of Assets over its Life Cycle'.
- Industries depending upon their own culture, facilities and vision can adopt any one or a

combination of systems stated above to achieve the goal.

- A good leader should focus on 'Right things to do', rather than depending on bench marking data, traditional ways or on some expert advice who has standard solutions for everything asked for.
- That does not mean that what the experts, world over on maintenance say has no value. No! Every bit of their ideas are backed by their own experience, and the experience of some others.
- Those others can be any body. It may be you who have found a novel way of doing a right thing. If it works your idea will also find a place in the maintenance philosophies of world experts.
- Why some one follows one system and why the other follows a different system is difficult to answer even by the experts.
- In India those who have their mind-set based on expert opinion, published in various journals, books and research papers, normally feel that the maintenance standards in India are the lowest in the world. That is not true.
- They fail to realise that they have very few equivalents to compare with. The culture 'Conserve today-save for future' is yet to take an about turn 'consume today-forget the future' in India.
- They may be lacking in scientific maintenance management, but as far as keeping the equipment in service (may be inefficiently) even beyond its stipulated life, they are probably the best (use-till-its-all-over).

STATUS

- The Indian Pulp and Paper Industry is nearly 100 years old.
- Till the year 1950-51 its growth was slow. It picked up but the progress was far below expectation for nearly 20 years. Dependence on imports was increasing. As such in early seventies the Government allowed import of second hand pulp and paper making plant from developed countries, to give it a boost.
- Lot of tax concessions and subsidies were offered

if these plants were based on secondary fibres and installed in industrially backward areas.

- Given these concessions the development picked up and, the country not only became self sufficient in Paper and Board within next 20 years but, got flooded with over capacity.
- The trend continued for next 20 years. While there were only 17 mills in 1950-51 and 57 in 1970-71 the number rose to 135 in 1980-81 and 325 in 1990-91 and nearly 380 in 1997-98 The capacity utilisation however came down from 99% in 1970-71 to 60% in 1997-98.
- This is a typical scenario where nearly 75% of the total production comes out from the machines which are more than 40 years old.
- Most of these old second hand machines were discarded by the developed countries because of their inefficient working and high maintenance cost as scrap. Those installed 40-50 years back as green field mills in India are also in the same state.
- The result: most of them have become sick and many others are on the verge of sickening.
- In a country like India where finances required to replace these old units are difficult to manage, do the maintenance people have any answer to make them economically viable is a million dollar question!
- The concept of maintenance in India is no different than in the other parts of the world.
- However the traditions have an upper edge over technologies.
- Leave aside a few, the management of most of the mills are under the influence of the finance people, who advocate that;
 - i) Maintenance is an additional cost of doing business or a necessary evil.
 - ii) Financial savings can be quickly achieved by lowering standards of maintenance activities.
- This vision or philosophy by whatever name we may call it was no different in other parts of the world.
- With technological advancement, more and more

sophisticated and instrumentally controlled equipment started replacing the old traditional equipment, the maintenance philosophy started changing.

- i) Profits come from productivity and productivity comes if the equipment designed for the purpose is maintained well.
- ii) Downtime, slowdown and rejects are a result of equipment failure. The production loss due to these factors are more than can be represented in monetary terms.
- iii) New investment costs are rising. It is only through proper maintenance that the existing production lines can be kept in optimum working conditions.
- iv) Maintenance is not a cost going down the drain. It is a support for pulling profits out, from going down the drain.
- v) And finally maintenance is neither a buzzword nor a fuss word but a root word for the health of the industry.

CONCLUSION

- Equipment for whatever purpose it is made, and at whichever place it is used has a certain life. Proper maintenance can avoid its premature failure.
- No two mills are alike. The maintenance systems should thus be tailor made to address the needs of a particular mill.
- Proper maintenance means doing right things. In order to do right things it is not only the right strategy that is important. Innovations are equally important.
- Bench marking data are valuable, consultant's opinions are desirable but it is the mind-set of the management towards maintenance that is more important.
- It is wrong to think that cutting maintenance cost will add to the profits. Rather reverse is true. Higher the maintenance cost, lower is the total production cost.
- Different maintenance systems are advocated. In fact the names given are irrelevant as long as the system is aimed to protect capital assets and

maximise up time.

- A leader follows the concept 'There is always a better way of doing it'. A follower will ask 'Has some one done it before', and the neutrals would like to 'wait-and-see'. In today's fast changing scenario best maintenance results can be expected only from a leader.
- Proper maintenance practices require technological and cultural change. Technological changes can be hired or purchased. For cultural change, change in the managements perception and focus is the only answer.

I SUGGEST - DO OR DIE

(It may be absurd)

- Do not throw out unless it is an absolute junk.
- Do not bother if some standard solution is not available to put it in service. Some one with vision may give you a solution. Encourage him.
- While innovating try to match the new with the old and not the other way. A young girl with an oldman may make a couple, but it will always be a mismatch. Disadvantage former.
- Keep it clean, you have won 50% of the battle.
- Experts and consultants have their own way of dealing with a problem;
 - i) They thrive on your ignorance.
 - ii) When called to negotiate, they complicate.
 - iii) Once hired, they simplify.
 - iv) They put is on you to execute.
 - v) If you do it, it is to their credit.
 - vi) If you do not, discredit is yours.
 - vii) They are safe either ways.

So talk to them, consult them, but have your own judgement.

- Having wonderful ideas is not enough. To sell them to those through whom you want to get results, is important. It is the social intelligence that counts.

- Do not be carried away by what the accountant or the manager say. Weigh their views both from visible and invisible angle before taking a decision.
- Do not get confused by bench-marking exercise. You will probably find none to compare with. Have your own bench-marking and compare.
- Rolling stone experts, in whichever position they are, are the most dangerous. They not only confuse but shake your confidence. Avoid them.
- Do not reward who correct mistake instead reward who prevent problems.
- You will definitely succeed in getting optimum results with minimum investment.
- This is not the end. Renovate and expand you must, but only when you are comfortable with

your finances.

- when I say "Do-Or-Die" I mean do your best intelligently and diligently if you want yourself and the industry to progress.

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