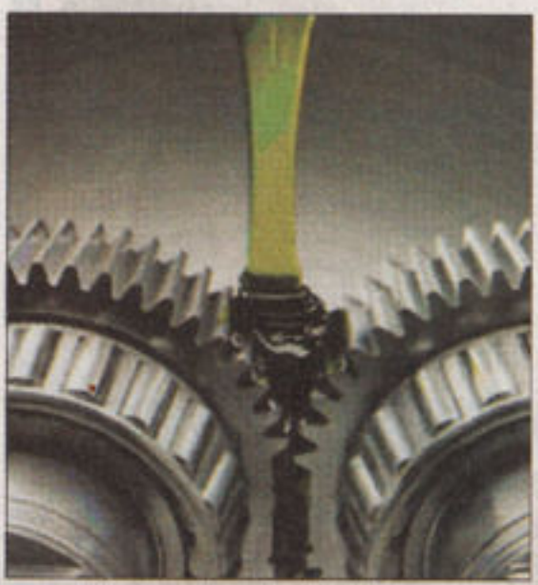
TOTAL LUBRICATION MANAGEMENT

A TOOL TO CUT LUBRICATION AND MAINTENANCE COSTS

INDUSTRY today is operating under severe competitive global environment. In order to be competitive with global players, it is of paramount importance to seriously practice all out cost reduction and manufacturing inputs conservation techniques. Any reduction in their costs, contributes directly towards profitability to the organization.

Industry professionals generally focus their attention on areas of their core competence and achieving their day to day objectives. In doing so, other vital supporting functions like scientific lubrication of plant and machinery do not get the attention they deserve, since functional mangers engage themselves only on day to day activities. Lubricants and Lubrication is generally taken for granted and little do operating and maintenance people realize that lubrication planning



starts right from the arrival of lubricants in the main stores. Therefore, storage, handling, dispensing lubricants assume a very important step towards feeding contamination-free lubricating oil to the machine. This is vital for reducing the maintenance costs - which at times goes unnoticed, because of basic thrust being on production.

It is also disappointing to observe the lack of awareness of the fact that various lubricants, manufactured under stringent quality control to meet required Quality standards can give expected results ONLY when they are used in the machinery in the same uncontaminated condition, under which they are manufactured, tested, packed and transported to the users Industry. This is usually not being done because of lack of adequate awareness, systems and concern for quality, particularly at the operating level for Lubricants and Lubrication, and its impact on maintenance costs, which remains hidden as a cost.

It is also a common knowledge that plan, operating and maintenance personnel usually try to "err on the safe side" by resorting to "over lubrication" as many of them are not aware of the fact that "over lubrication is as bad as under lubrication".

Oil companies invest large amounts of money and efforts on research and development activity in producing high performance lubricants and all efforts and expenditure made on Lubricants developmental activity will be wasted and the consumers of lubricants shall also incur heavy losses, due to higher maintenance costs, if such lubricants are allowed to get contaminated before being fed to machines. This lack of concern for Quality of Lubricants definitely leads to increased maintenance costs, costs due to machinery break down and loss of production and many hidden costs including cost of manpower involved. Industries hardly maintain maintenance cost data of such breakdowns, where glaring facts relating to maintenance costs on account of machine failures - cause analysis are tabulated and analyzed. Once this analysis is done in the Industry, glaring facts may emerge on 'costs'.

The life of Lubricants and machines can be increased many fold; by keeping the Lubricant clean in service. Like blood in human body is Lubricant in a machine. As long as we can maintain Lubricant clean and one-spec in a machine, the Lubricant is fit for further usage. Therefore, Lubricant has to be kept free of contamination. Water, dirt, suspended impurities and air mixed in Lube oil are the worst enemy of Lubricant in service. If these contaminants are not removed timely from Lube Oil, they can even stop the machine resulting in loss of production and leading to unwarranted expenditure.

Keeping above factors in view, M/s.Global Technical Services innovated the concept of Total Lubrication Management (TLM) which is an integral, inevitable tool in the successful implementation of "Total Productive Maintenance". Total Lubrication Management (TLM) is, therefore, a great tool in cost reduction in Indian industry and therefore Total Lubrication Management (TLM) is a positive and definite step towards achieving TPM. Without TLM, TPM cannot be achieved in any Industry.

TLM EMPHASIS ON THE FOLLOWING

1. Awareness and training to Management Staff, Engineers and operating & maintenance personnel in the industry on lubricants and correct methods for lubrication, effect of Lubrication on maintenance costs, etc. This includes and starts with the basics of house keeping, storage, handling and dispensing of lubricants, types of Lubricants, their characteristics and selection of correct Lubricants for an application.

All positive activities in any environment start with awareness, training and

good housekeeping.

Most of the industrial oils (other than engine oils) are rejected from the service only because of contamination by dust, dirt, water or wear metal particles. If these are removed periodically, from the Lubricating oil and tested for further use, the machine life and oil life can be extended manifolds. This is a sound step towards not only Conservation of Lubricants but also reduced maintenance costs drastically.

2. Introducing systems in the industry for repetitive actions of correct suggested methods. Without systems monitoring and auditing, there can be deviations in repetitive action over a period of time.

Introducing colour coding for various grades of Lubricants and use of Dust Free Containers, Record keeping of Lubricants and Lubrication, is also part of system improvements.

3. Establishing condition monitoring of Lubricating oil in service i.e. accepting or rejecting the oil in service based on the condition of oil, machine wear, debris analysis etc. before rejecting or removing oil or filling new oil - this step shall lead to optimum utilization of lubricants. Therefore, establishing rejection limit of used lubricating oil plays vital role in oil conservation. There is no scientific or Laboratory data-based oil rejection system in practices in most industries and Lubricants are just rejected on experience factors, or already established norms without a rational or scientific data on rejecting Lubricant in service. This needs to be corrected and correct methodology must be adopted. This is an integral part of Total Lubrication Management (TLM)

4. Installing in-house oil regeneration system and programme by GLOBETECH MS-III filtration system, methodology to regenerate the contaminated used lubricating oils. Do the Laboratory testing for main characteristics e.g. Viscosity, TBN, TAN, Flash point, water content, etc. of the regenerated Lube Oil and then decide for further use in the machines. This will reduce cost of buying new Lubricating oils, and affect Lube oil conservation. This is a tangible oil conservation parameter to the Industry, where TLLM is being practiced.

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