

TOTAL FLUID MANAGEMENT AND ITS VIABILITY

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The fluid management has been evolved throughout last two decades closely following worldwide business and economic trends. Fierce competition among manufacturers and among suppliers, cost cutting pressure from customers, globalization needs, supply chain management, outsourcing and health-safety/environmental regulations to name a few. Three essential part of viable program are mutual win-win arrangement, long-term commitment and understanding of cost structure. Currently there is some success as well as failure.

In automotive industry, the total fluid management (TFM) began with relatively simple " coolant management " because of its high service requirement, and the evolved into full- fledged TFM program.

TFM will spread into many different industries wherever chemicals are involved such as aerospace, steel, pulp & paper, airline ... as long as the win-win relationships are maintained.

Keywords: Fluid Management, Chemical Management, TFM

1. INTRODUCTION

As global competition in manufacturing industries grows fierce and cost cutting pressure mounts up to the highest level ever, the traditional supply of lubricants/chemicals evolved into full-scale total fluid management (TFM) program [1,2]. Industries have been out-sourcing non-core business to a specialist in the field. Power generation plant contracts out troublesome flue gas scrubbing process to a chemical company. Manufacturing plant out-source water treatment process to water specialist. In metalworking industry, lubrication and related processes demand more attention as regulatory requirement and global competition increases, and have been out-sourced to chemical companies [9, 10].

There are several levels of chemical management (CM) [8, 9], ranging from commodity management system (CMS) [5-7], coolant management [3, 8], to high-level TFM. This will include procurement of chemicals / services, inventory control, dispensing materials, monitoring / controlling lubricants / chemicals systems and their performance, regulatory documentation / reporting, usage / cost tracking, waste control / disposal and continuous improvement of all these processes. The first step of this process is usage reduction, and material consolidation, and then substitution. In practice, every customer has specific level of fluid management between two extremes to suit their needs.

Past two decades, these new supply management program become commonplace. Even transportation industry is seriously considering out-sourcing fuel/lubricant supply / service as a cost cutting measure.

2. BASIC CONCEPT

Basic concept of TFM lies in cost saving by arranging new customer / supplier relationship. Fixed fee and reward sharing are two most common arrangements. Under fixed fee contract, supplier has

incentive to reduce chemical usage by effective use of chemicals and minimizing waste [4].

Properly managing supply chain, customer can tap into vast resources of technology, know-how, regulatory information, environmental requirement, health/safety information etc.

3. ECONOMIC VIABILITY

The key for the success of this program is arrangement of win-win situation between two parties [2, 4]. In order to achieve this arrangement, long term commitment by top managements of both parties and thorough understanding of cost structure of operation are required. This will give baseline of true current cost and establish measurable to track and to improve. Many programs failed, because of customer enforced one-sided contract.

4. PROGRAM / PROPOSAL DEVELOPMENT

First of all, the scope of work should be clearly defined describing obligation of each party. Contract type should be selected from cost-plus, flat-fee, cost-per-unit (CPU), pay-on-receiving (POR) and pay-on-use (POU). Customer's internal cost, financial arrangement, program schedule and plant walk-through are essential part of program development.

5. IMPLEMENTATION

In implementing the program successfully [2], there are many barriers to overcome [4]. You will face lot of resistance to change and you have to convince from top management down to floor machinist the benefit of the program. Mutual respect and trust should be developed between customer and supplier by effective communication and teamwork. Avoid unrealistic expectation.

6. FUTURE PROSPECT

TFM is a general business trend in both manufacturing and service industries wherever using chemicals / lubricants. Industries discovered the merit of TFM program. International airline can use TFM to get jet fuel and lubrication services worldwide. Automotive industry will keep expanding the program globally.

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