Implementing Daily Work Management

Reducing variation in key product parameters by 50%

Case Study

TQMI
QUALITY FOR HUMANITY

The Company

A traditional organisation, part of a global business house with more than three decades of operation in North India engaged in manufacture of high value/ high technology drug intermediates.

The Problem

The company was facing lot of customer complaints due to inconsistent product quality characteristics . In addition, there was problem of high yield variation internally leading to issues like low on-time delivery performance and high costs / lower profitability.

The Approach

Diagnosis was conducted on the current plant performance with review of data on one product and relevant process parameters through interaction with concerned line managers and Supervisors. The diagnosis revealed weak controls in the process leading to unexpectedly high variation in the product and process parameters. Further analysis indicated lack of understanding about relationship between product and process parameters, absence of robust SOP (Standard Operating Procedure) and lack of clarity on responsibility for identifying & addressing abnormalities.

A cross-functional team was formed and trained on the concept & importance of 'Daily Work Management' (DWM). DWM, a Japanese concept focuses on making process stable & consistent with no or few surprises, with an objective of ensuring smoother operations & less fire-fighting. Key Inputs and process parameters were identified & prioritised with the help of FMEA and Quality Table was developed. A simple responsibility matrix was prepared assigning clearly who will monitor which parameter. Specifications were optimised and standardised for all these parameters with the help of R&D Team. For example, identified two parameters out of several process parameters as most critical to ensure consistency in a critical product characteristic based on FMEA, Quality tables and data analysis. Process controls were established for these parameters.

Process Control system was gradually rolled out in the plant through Daily Work Management. After initial hiccups, people started enjoying their involvement in improvement activities. Abnormalities in process & product parameters were recorded and analysed leading to appropriate corrective actions. Control charts were used to monitor any special cause of variation. Guidelines were defined to address repeat abnormalities and teams were trained on the same for consistency.

At a Glance

Customer

- 3 decade old company
- Manufacturer of Drug Intermediates

Problem

- Variation in product parameters
- Variation in process parameters
- low profitability & high customer complaints

Solution

- Implemented DWM
- Developed Quality Table
- Monitored key process parameters
- Implemented Control Charts
- Timely action on abnormalities

Outcome

- Reduction of variation by 50%
- Sense of achievement

The Result

Within 3-4 months, company achieved reduction in variation by 50% in all the product parameters. Process capability of 1.33 or greater has been achieved for 80% of product characteristics from 20% level at the start of the project. Product 'A' yield variation also reduced from 1.4 to 0.5. Process parameters have now been stabilized. Number of complaints per month have come down by 90%. There is sense of achievement among the employees particularly at the operator & supervisor level. Company now plans to roll out similar initiative in all the plants. A detailed roll out plan has been prepared for horizontal deployment.

"In a short period of time, we have been greatly benefitted by the clear, systematic and professional approach of TQMI"