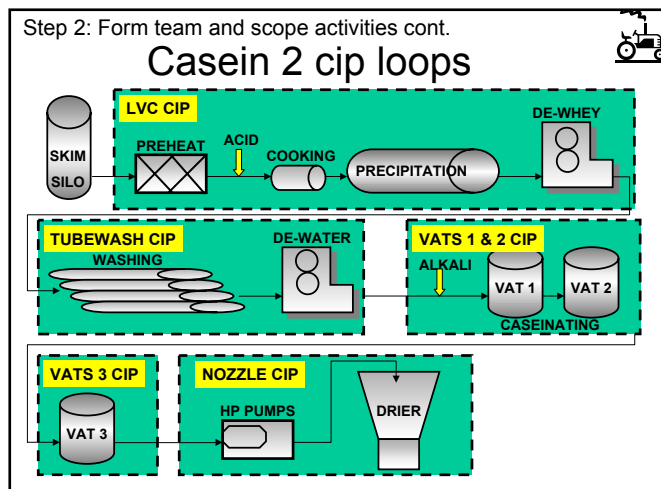




Success with People: How the Fonterra Edgecumbe Fast Tractors Team made \$1.49 million in savings

The Edgecumbe factory processes 3.4 Million litres of Milk each day during the peak of the milk season. The site received the most reliable Fonterra Site Award for the 2002 and 2003 season. The Protein Plant, which is made up of two main processing lines Caseinate and Casein, have been involved in TPM³ since the first Macro FE&PI team in August 1999. It is a key plant onsite and pivotal in the site's profitability and ability to process the required milk volume. The Fast Tractors Team, finalists in the TPM³ 'Kiwi Cup' Team Competition, was a Micro Focused Equipment & Process Improvement (FE&PI) Set-up Time Reduction Team whose focus was on the Caseinate Clean in Place (CIP), which is the chemical cleaning of the equipment between production runs.

The Fast Tractors Team gave a superb presentation on what they had achieved. They outlined their mandate, which was to achieve a 20% reduction of the Caseinate CIP (Clean in Place) time and have a plan to further reduce this by 50%. The Clean in Place consists of five (5) large CIP loops. Each Loop requires a rinse, caustic chemical clean, rinse, acid clean and a final rinse. The sequencing of the loops is such that each CIP needs to be started and completed at different times to run the product out and maximise plant capacity as shown below.



Nearing the end of their presentation they revealed that they had achieved a 27.9% reduction in the CIP time--this will create extra revenue estimated at \$1.49 Million for the coming milk season. Before the team began

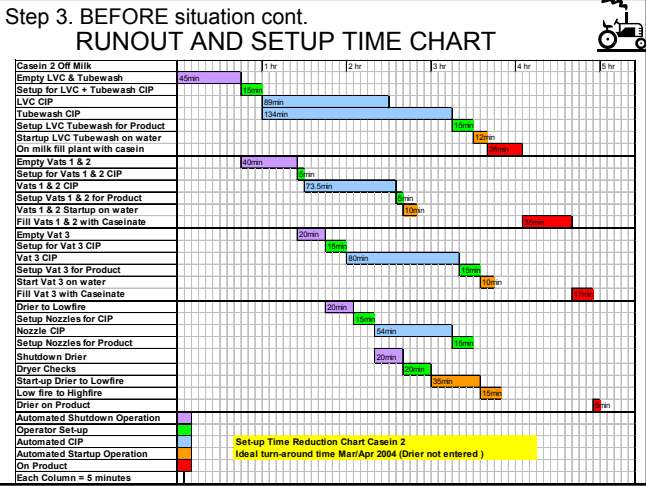
the Micro FE&PI Set-up Time Reduction, the total turn around time for the CIP took 5 hours and 45 minutes. This occurred every 3 days, a total of 8.0% availability. Through the teams improvements and increasing awareness of the turn around time they were able to reduce the time to 4 hours and 52 minutes and they were also able to increase the run lengths from three to three and a half days. Next season the Caseinate CIP is predicted to only take up 5.8% of available time.

How did they do it?

The first step was collecting data and developing a Set-Up Reduction Chart. With five separate CIP loops this was not an easy task. The team conducted operator surveys, had discussions with each shift, took videos of sections of the CIP, reviewed the procedures, observed all the CIP's and reviewed software sequences and descriptions. With the large amount of effort required, the team battled not having enough people to record and video the CIP while the CIP was being completed. The communication across shifts was done through the use of a comprehensive noticeboard (Figure 2) in the control room and representatives from the team talking to each shift.

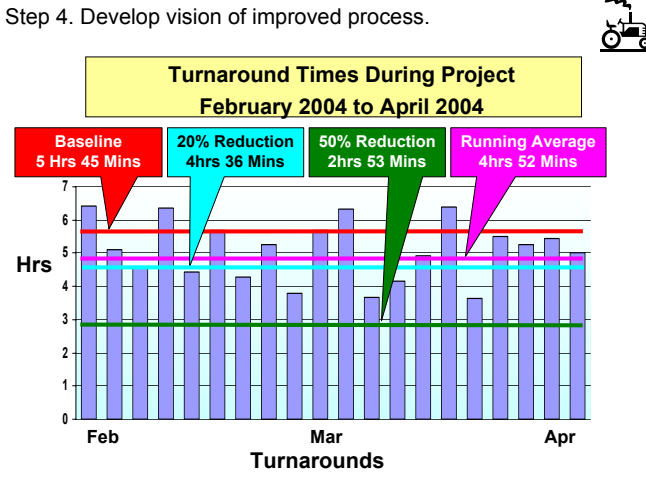


Through the data collection, the team developed an extensive Set-Up Reduction Chart and a large list of opportunities, along with some immediate actions to be addressed. Eventually a critical path for the CIP emerged. The final Run Out and Set-Up Time Chart is shown in Figure 3. Sections of this chart were drawn in more detail to assist the team with their improvements.



The team set a vision and the top five improvements were selected to focus on for the cycle. The teams vision and turn around time results are shown in Figure 4. The top 5 improvements were:

- Extending production runs to 3.5 days
- Standardising procedures
- Everybody follows best practice
- Not shutting the drier down for each CIP
- Reducing Casein 2 CIP time



A lot of work was still required. The team split the tasks up, with people working on different things. Extensive trials were required to extend the product runs without risk to the plant or product quality. The potential

benefits were large. Besides increasing available time, the extended runs would allow better maintenance opportunities as each CIP would now fall on a week day and day shift.

There was also a lot of work required for the other improvements. The team was able to draw on the assistance of the people in the plant and the site services (or maintenance) department. Through doing this, one of the key learnings and achievements they had was how much buy in there was and the level of increased knowledge in the plant.

Something I learnt from the presentation was how a site with a great record of performance and improvement can continue to find significant benefits with the hard work and perseverance of their people. They truly live up to their site vision "Success with People".



I would like to pass on my congratulations to the team.

For further information contact:

Anthony Burt
 TPM³ Managing Navigator
 Tauranga, New Zealand
 Ph: 0011 64 27 240 8509
 Email: anthony_burt@ctpm.org.au

The Centre for TPM (Australasia)

A membership based organisation specialising in TPM³
 (an enhanced and expanded Australasian version of 3rd Generation TPM)

providing

Contact Details: Training - Navigation - Research - Networking

Head Office:

Units 3 & 4, Victoria Terraces,
 25 Victoria Street
 Wollongong NSW 2500

PO Box 1039
 Wollongong NSW 2500

Phone: (02) 4226 6184
 Fax: (02) 4226 6218
 Email: ctpm@ctpm.org.au
 Web: www.ctpm.org.au

For all your course enquiries and registration, please contact head office on (02) 4226 6184