

Case Study

Efficient Operations to Reduce Availability Loss



Client Background

Pioneer Foods is one of the leaders in South Africa's food and beverage industry. Within Pioneer's Essential Foods division is the Duens Bakery in Epping where various different brands and types of bread are baked, packed and distributed.

The Pragma intervention started off with a full Asset Management Improvement Plan (AMIP) being drawn up to highlight areas for improvement. Pragma then, with partners supplying the OEE measurement system and the cultural and change management support, would effect this improvement, and others identified through the processes and systems implemented by the partners, through implementing several of Pragma's business processes.

"Due to the implementation of the level sensor we can see that the OEE started to increase on plant 2 and contribute to our on time in dispatch as well"

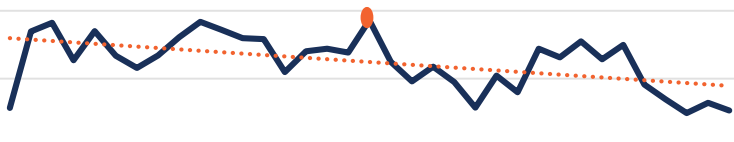
Bernard le Fleur
Operations Manager

Pragma Intervention

OEE was the main measure of improvement and through Pragma's Focused Improvement (FI) methodology Availability (one of the three areas determining OEE) was identified as a problem area on Plant 2. Analysing Availability loss reasons Operations at the Mixer was the cause of a significant loss of uptime on a daily basis. Further analysis, through time and motion studies, job observations and interviews indicated that of this loss, most of it was due to gaps between mixes of the same product, thus, not changeovers where cleaning cause a delay.

There were several reasons identified for this loss and actions recommended to reduce the time loss included:

- Commissioning the dough chute level sensor – so staff wouldn't have to guess the level of the dough in the chute and dough levels in the chute could be kept optimal to ensure product quality and minimal starvation of downstream equipment
- Training of staff in mixing procedures
- Standard recipes set up and staff access limited
- Disciplinary measure for late/absent staff
- Shift handovers governed by procedure
- Communication from downstream equipment operators via intercom



Key Challenges

- As part of Pragma's Focused Improvement (FI) business process analysis of data in order to identify focus areas for improvement is critical. The quality of the data was suspect as discrepancies were found in the past, but operators confirmed the data accuracy, specifically in the case where the loss reasons were allocated to the Operations at the Mixer.
- Implementing modifications to the dough chute level sensor was time consuming and delayed by over a month.



Value Add

- With training and management focus downtime reduction was evident. Especially as staff were not aware they were causing problems by allowing gaps to form between mixes, effectively starving downstream equipment of product.
- Modification to the dough chute level sensor was made to allow it to function as it was misaligned since plant commissioning.
- Overall value add was through a reduction in the time gaps between mixes. This allowed for more continuous product flow and also increased plant capacity.
- Reduction of time loss by 5 hours a week, from 7.5 hours loss to only 2 hours loss.
- This allowed for an increase in throughput worth R11 440 000 p.a. and an increase of 3.7 %-points in Plant 2 Availability and 3.2 %-points in Plant 2 OEE.

Tools and Technology

- SAP
- OEE System
- DMAIC process
- Time and Method Study
- Asset management Improvement Planning
- Focused Improvement