OEE

Fresh Water Inc.

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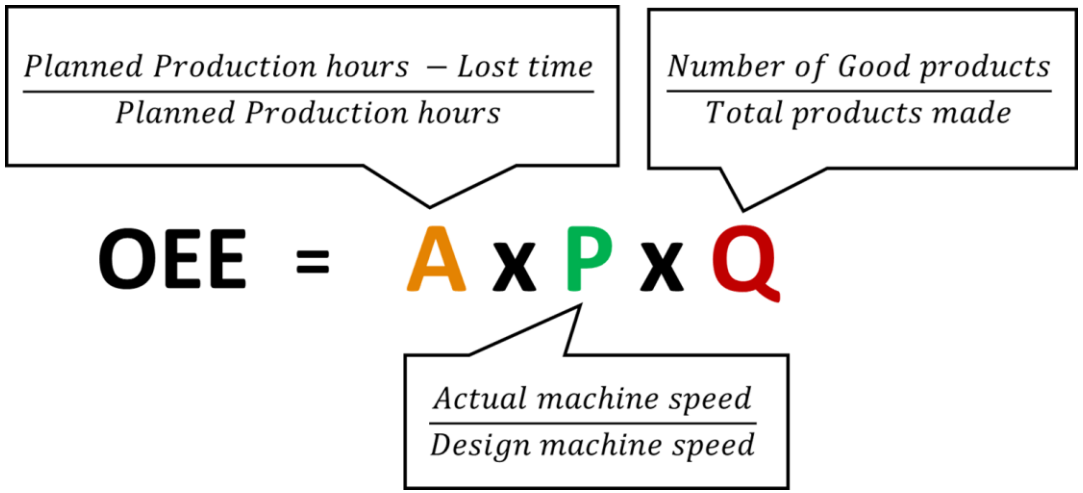
Fresh Water has a bottled water company that has only one production line that needs to improve to accommodate customer demand but maintaining a low cost.

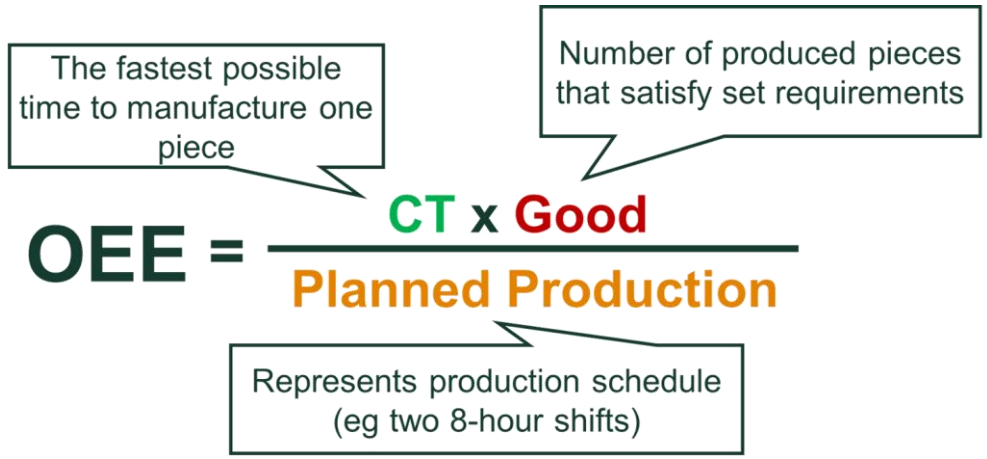
There is enough information being tracked daily during production and the operations manager needs to recognize where is the opportunity to focus his improvement initiatives is.

He needs to analyze the report to calculate OEE

ITEM	DATA
Shift Length	8 hours (480 minutes)
Breaks	2 x 15 minute each and 1 x 30 minutes
Downtime	92 minutes
Ideal Run Rate	14,000 units per hour
Total Count	59,972 units
Reject Count	5,204 units

Calculate OEE using both methods





Metrics for Process Control

Planned Production Time: Shift Length − Breaks

Planned Production Time: 480 minutes − 60 minutes = 420 minutes

Run Time: Planned Production Time − Stop Time

Run Time: 420 minutes − 92 minutes = 328 minutes

Good Count: Total Count − Reject Count

Good Count: 59,972 bottles − 5,204 bottles = 54,768 **bottles**

Metrics for Process Control

Availability: Run Time / Planned Production Time
Availability: 328 minutes / 420 minutes = **0.781** (78.1%)

Performance: (Ideal Cycle Time × Total Count) / Run Time
Performance: (0.00429* min × 59,972 bottles) / (328 minutes) = **0.7836** (78.4%)

Quality: Good Count / Total Count
Quality: 54,768 bottles / 59,972 bottles = **0.9132** (91.3%)

* 1/14,000 = 0.0000714 (hrs per bottle); x60 = 0.00429 min per bottle

Metrics for Process Control

OEE: Availability × Performance × Quality

OEE: 0.781 × 0.784 × 0.913 = **0.559** (55.9%)

OEE: (Good Count × Ideal Cycle Time) / Planned Production Time
OEE: (54,768 bottles × 0.00428 min) / (420 minutes) = **0.558** (55.8%)

PathStone Group

PRODUCTION CONTROL AND OEE

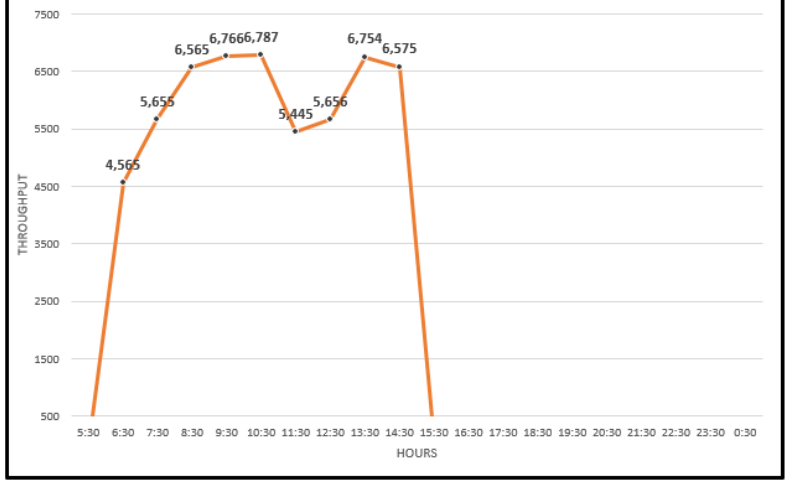
PRODUCTION NUMBER	BATCH	OPERATION	TOTAL UNITS PLANNED	UNITS/ CASE	TOTAL CASES TO PRODUCE	DOWNTIME (min)	PLAN PRODUCTION TIME (minutes)	RUNTIME (min)	TODAYS SHIFT LENGTH (min)	BREAKS	Break length (min)	Lunch length (min)
234	222DG	Cigar Line	234,000	2340	100	92	420	328	480	2	15	30

OEE			
OEE	AVAILABILITY	QUALITY	PERFORMANCE
55.9%	78.1%	91.3%	78.4%

DAILY TARGET			
TODAY TARGET	ACTUAL	BALANCE	TARGET (u/hr)
234,000	54,768	179,232	14,000

SPECIFICATION (PART TEST)				SPECIFICATION			
Start up sample test				< 5%	<10%	>75 %	< 10%
< 0.5 mm	0.5 - 1.0 mm	1.0 - 2.0 mm	> 2 mm	<0.5mm	0.5 - 1.0	1.0 - 2.0	>2mm

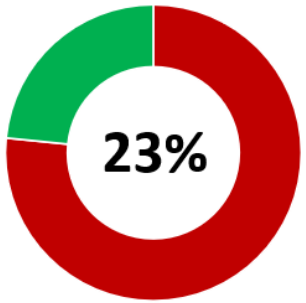
HOURLY THROUGHPUT



DAILY PRODUCTION

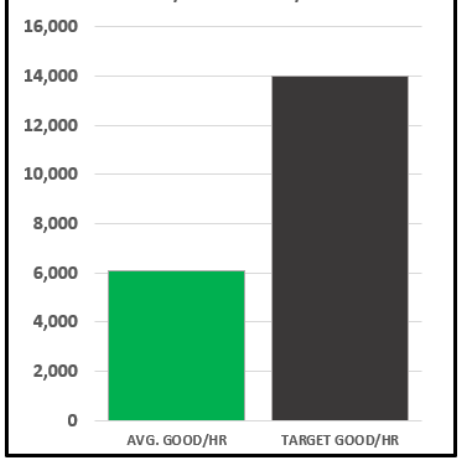
TEMP:		RH:		LOD:	
TIME	CUMMULATIVE TOTAL	HOURLY	GOOD	BAD	% YIELD
5:30		0			
6:30	5343	5343	4565	778	85%
7:30	11784	6441	5655	786	88%
8:30	18784	7000	6565	435	94%
9:30	25983	7199	6766	433	94%
10:30	33004	7021	6787	234	97%
11:30	39113	6109	5445	664	89%
12:30	45534	6421	5656	765	88%
13:30	52832	7298	6754	544	93%
14:30	59972	7140	6575	565	92%
15:30	59972	0			
16:30	59972	0			
17:30	59972	0			
18:30	59972	0			
19:30	59972	0			
20:30	59972	0			
21:30	59972	0			
22:30	59972	0			
23:30	59972	0			
0:30	59972	0			
TOTAL		59972	54768	5204	91%

TOTAL ACTUAL VS TOTAL TARGET



YIELD
91%

ACTUAL/HR VS TARGET/HR



DOWNTIME DURATION

DAILY DOWNTIME

DOWNTIME CAUSES	DURATION (n	FREQUENC	COMMENTS
Machine filler 1	5	1	clean up

DOWNTIME DISTRIBUTION