



The  
**Science**  
of  
**EDGE**  
THE KNOWLEDGE TO MASTER THE NEW SUPPLY CHAIN

# Heavyweight Match of the Year: Maintenance vs. Operations

Track 6 Session 4

# Craig Moore

---

- Director of Facility Maintenance
- AmerisourceBergen
- [cmoore@amerisourcebergen.com](mailto:cmoore@amerisourcebergen.com)
- 614-409-6062
- [www.amerisourcebergen.com](http://www.amerisourcebergen.com)

# Matt Swilling

---

- VP of Operations
- Glazer's
- [Mswilling@glazers.com](mailto:Mswilling@glazers.com)
- 972-392-8161
- [www.glazers.com](http://www.glazers.com)

# Abstract

**For all the right reasons, Operations leaders strive for production-related KPIs such as throughput and customer service levels. Meanwhile, astute Maintenance professionals know that complex material handling requires scheduled downtime and methodical repairs to meet those operational KPIs long term. In this session, you will hear both corners discuss that fine balance and offer practical tips on harmony, met expectations and decreased lifecycle costs.**

# Agenda

- **Consequence of Doing Nothing**
- **Why Planned Maintenance is Important**
- **Reactive vs. Predictive**
- **Working in Harmony**
- **Decreased Lifecycle Costs**
- **Key Takeaways**
- **Conference Cloud**
- **Questions**



# Maintenance vs. Operations Perspective



# Maintenance Perspective

- **Maintenance department is usually understaffed**
- **Reduced budget helps the bottom-line, but failed equipment does not**
- **Maintenance staff is not given the opportunity to do their job until equipment fails**
- **Maintenance practice and standards are only important to operations when equipment fails.**
- **Most failures are preventable**

# Operations Perspective

- **Systems don't get attention until failure**
- **Maintenance always during peak hr**
- **Move from ad hoc to monitoring**
- **System failures always during peak volumes**
- **How to move from reactive approach to proactive management**
- **Parts not on site to address issues**
- **Maintenance staff lacking the expertise to address the issue**



# Consequence of Doing Nothing (aka Reactive)

- Unexpected equipment downtime
- Increased cost of ownership
- Increased labor cost
  - Operational
  - Maintenance
- Associate perception
- Safety
- Performance to Poorformance





# Consequence of Doing Nothing

## Examples

- **Equipment failures occur during high volume periods**
- **Cause and Effect (one failed parts causes more damage)**
- **Increased labor cost associated with Cause & Effect damage and the need for operations to implement manual process.**
- **Rushing to make a repair greatly increases the potential of injury**

# Consequence of Doing Nothing Examples



# Doing Nothing Costs

- **Increased costs due to unplanned downtime**
- **Increased labor costs – overtime**
- **Expedited shipping and manufacturing costs**

# Why Planned Maintenance is Important

- **Reduces downtime events**
- **Equipment reliability**
- **Better production planning**
- **Customer satisfaction**
- **Minimize EMERGENCIES**
- **Reduction in TCO (Total Cost of Ownership)**



# Planned Maintenance Examples

- **Routine Equipment Inspections**

- Listen
- Look
- Plan



- **Replace, Repair, Adjust**

- Based on OEM suggested intervals
- Based on historical trending (MTBF)

- **Dedicated PM & Scheduled Repair Windows**

- Lunches & Breaks, Off Hours, Weekends

# Reactive vs. Preventive Explained

## Reactive

- Repair when it breaks
- Increased downtime
- Inaccurate budgets
- Customer Impact
- Finger pointing

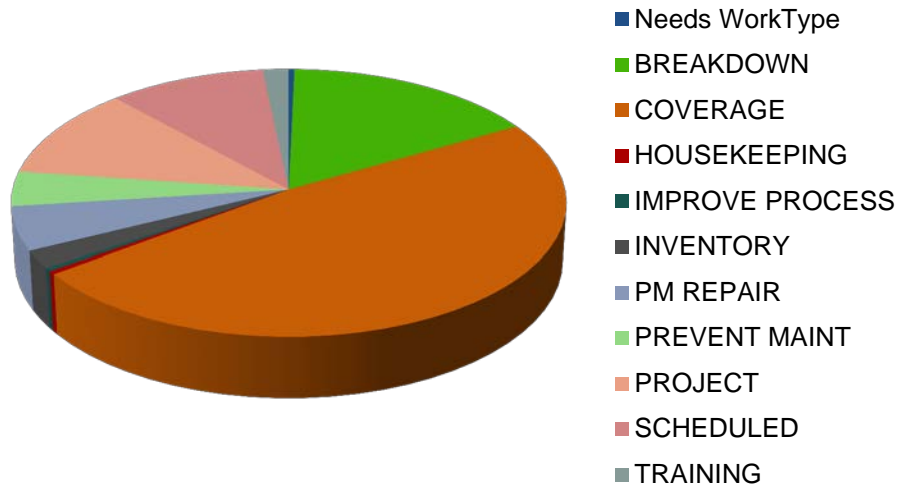
## Preventive

- Reliable planning
- Scheduled downtime
- Accurate budgets
- Meet customer needs
- Team collaboration

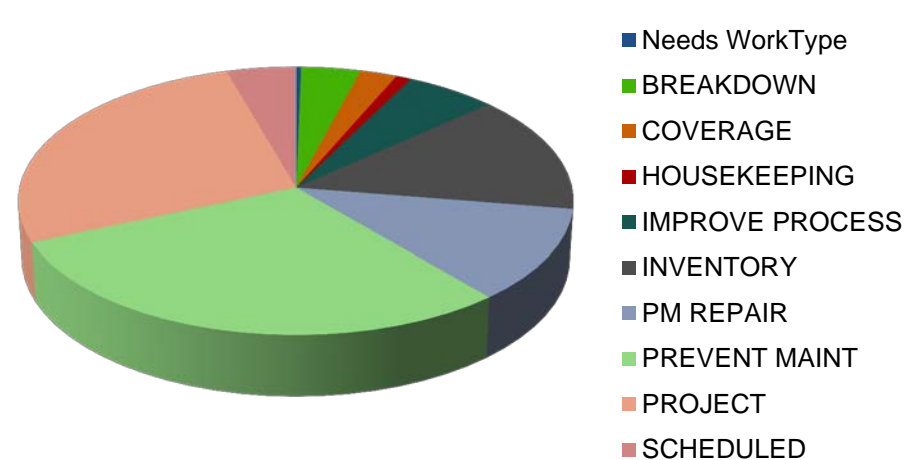


# Reactive vs. Preventive Maintenance

## Unplanned Maintenance



## Planned Maintenance



# Reactive vs. Preventive Costs

## Example: Failing roller chain addressed

Chain = \$30.00

+ (30) Minutes of labor = \$25.00

Total Cost = \$55.00

## Example: Failing roller chain not addressed

Chain = \$30.00

Drive sprocket = \$50.00

Driven sprocket = \$50.00

Driven sprocket = \$50.00

Loss of Productive Manhour = ???

+ (1) Hour of labor = \$50.00

Total Cost = \$230.00

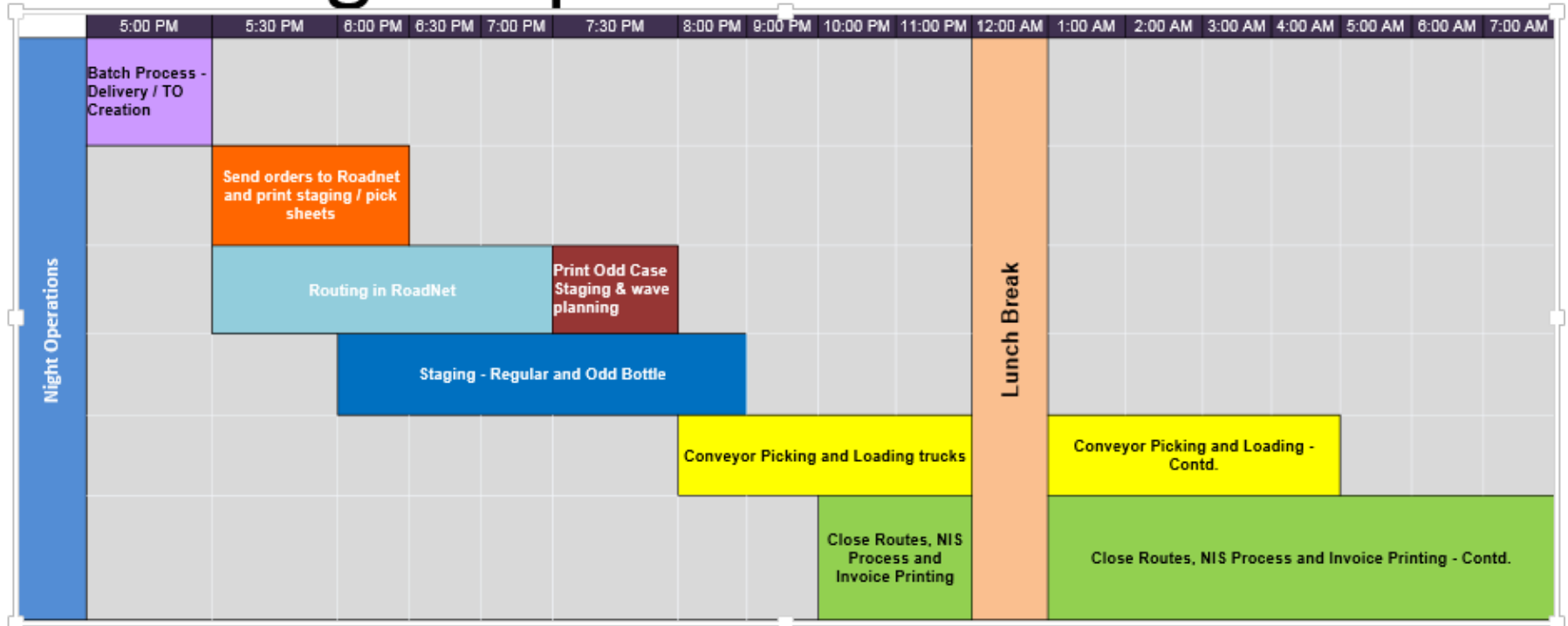


# Working in Harmony

- **3-Cs**
  - Clear
  - Consistent
  - Communication (schedules, business goals)
- **Training (Do it right the first time)**
- **Implement CMMS**
- **CMMS Reporting**
  - Predictive failure
  - Performance (equipment, personnel, MTBF)

# Working in Harmony Examples

## Night Operation Guidelines

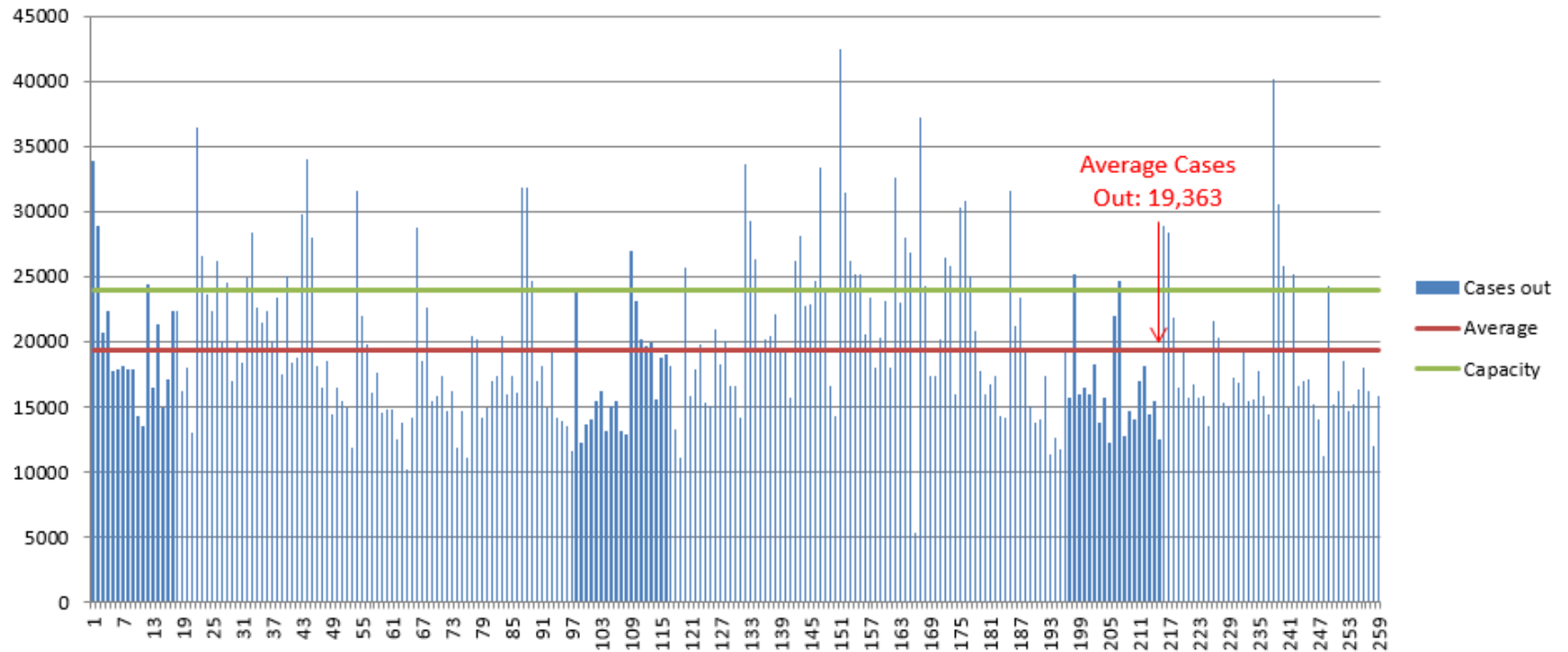


Conveyor Capacity	Current State
a. Avg performance = 3000 CS / Hr	Avg cases = 18,381 CS / Day
b. Avg run time = 8 Hrs* (Start: 8 PM, End: 5 AM)	OND avg = 21,114 CS / Day
Daily avg performance = a*b = 24000 CS	Finish Times = 7 AM

PICKING SYSTEM SPECIFICATIONS
• 6 Downlines
• 1 Pallet Loops
• 9 Full Case Mod Levels
• 1 Split Case Mod

# Working in Harmony Example

## 3 YO Volume Projection



- Projections based on an annual growth rate of 3%

<=24K CS	24K-27K CS	27K-30K CS	30K-33K CS	33K-36K CS	>36K CS
206	26	10	9	4	4
79.54%	10.04%	3.86%	3.47%	1.54%	1.54%



# Decreased Lifecycle Costs Examples

- **Cost effective in many capital intensive processes & equipment.**
- **Provides flexibility for adjusting maintenance frequencies.**
- **Increases component life cycle.**
- **Generates energy savings.**
- **Reduces equipment and/or process failures**
- **Results in 12% to 18% cost savings over Reactive methods**

# How Much You Can Save...

Month	Total Run	Total	Average Cost							
	Time (HRs)	Down Time	Total Time	% Up	Per FT	Avg # FT	Cost Per Month	Cost Per Hour	Down Costs	
14-Mar	103	7	110	93.64%	12.77	59	\$ 82,877.30	\$ 753.43	\$ 5,274.01	
14-Apr	103.25	6	109.25	94.51%	12.53	62	\$ 84,871.96	\$ 776.86	\$ 4,661.16	
14-May	96.75	13.5	110.25	87.76%	12.71	62	\$ 86,879.21	\$ 788.02	\$ 10,638.27	
14-Jun	106.5	7	113.5	93.83%	12.92	63	\$ 92,384.46	\$ 813.96	\$ 5,697.72	
14-Jul	104.75	6.5	111.25	94.16%	12.6	64	\$ 89,712.00	\$ 806.40	\$ 5,241.60	
14-Aug	91.5	11.5	103	88.83%	12.82	60	\$ 79,227.60	\$ 769.20	\$ 8,845.80	
14-Sep	96.5	6	102.5	94.15%	12.83	60	\$ 78,904.50	\$ 769.80	\$ 4,618.80	
14-Oct	101.5	7.25	108.75	93.33%	12.95	61	\$ 85,907.06	\$ 789.95	\$ 5,727.14	
14-Nov	122.25	2.5	124.75	98.00%	13.46	65	\$ 109,143.78	\$ 874.90	\$ 2,187.25	
14-Dec	141.75	9.5	151.25	93.72%	13.18	67	\$ 133,562.83	\$ 883.06	\$ 8,389.07	
15-Jan	102.23	13.5	115.73	88.33%	12.91	61	\$ 91,138.53	\$ 787.51	\$ 10,631.39	
15-Feb	79.5	3.5	83	95.78%	12.76	59	\$ 62,485.72	\$ 752.84	\$ 2,634.94	
15-Mar	110.75	5	115.75	95.68%	13	58	\$ 87,275.50	\$ 754.00	\$ 3,770.00	
									\$ 78,317.14	

## Other Costs?

# Key Takeaways

- **Maintenance Program Requirements**
  - Proper staffing level
  - Proper skillset and training
  - CMMS (Scheduling, Trending, Inventory)
  - SOPs (Drive the CMMS and Quality)
  - Communication (Plan windows for maintenance)



# Key Takeaways

- **Ensure Maintenance Team is Intune**
  - Peak Volumes
  - Cross Functional Collaborative Meetings



# Conference Cloud Additional Resources

- **PEM (Plant Engineering & Maintenance)**
  - <http://www.pem-mag.com/>
- **ANSI (Preventive Maintenance Standards)**
  - <http://webstore.ansi.org/preventive-maintenance/Default.aspx>
- **Association of Asset Management Professionals**
  - <http://maintenance.org>
- **OEM Manuals!**

The  
**Science**  
of **EDGE**

THE KNOWLEDGE TO MASTER THE NEW SUPPLY CHAIN

**Questions**



**Material Handling & Logistics**  
**CONFERENCE**  
SPONSORED BY DEMATIC

# Win an iWatch!

## Evaluate this session online!

[www.mhlc.com/eval](http://www.mhlc.com/eval)

Every evaluation provides us with valuable insight for future conference sessions. Each submission increases your chances of winning an iWatch.

