


NWPCA SAFETY PRESENTATION

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 Director, Mfg. Engineering & Facilities
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UNICARRIERS HISTORY




1953
First "AGV" ever

"NO-HANDS" TRAIN

You don't need an engineer on this tractor-train, because the system at Esso's Baton Rouge refinery is electronically controlled. The train, which pulls five trailers at 2 1/2 miles an hour, follows the electromagnetic field of a wire laid in the floor.

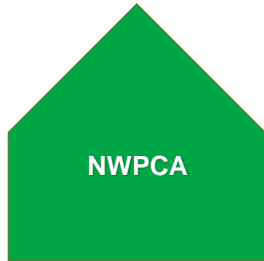
Two gates in the building open automatically as the train approaches and shut when it passes. It makes 11 stops at service points called "beacons." Each "beacon" sends out a different signal to stop the train at the proper place.

Known as "Guide-O-Matic," the train is made by the Barrett-Cravens Co., Northbrook, Ill.



The first practical application of vehicle automation took place not on the roadway, but in the warehouse. In 1953, Arthur Barrett, Jr., developed the first automated guided vehicle (AGV), what he described as a "driverless vehicle" called the Guide-O-Matic. The Guide-O-Matic followed a wire in the ceiling and helped turn Barrett Electronics into a major provider of advanced logistics and distribution center equipment. Barrett Industrial Trucks was later sold to Nissan.

http://www.unicarriers.com/unicarriers/who-we-are/



UNICARRIERS & FORKLIFT SAFETY

- National Forklift Safety Task Force
- Operator and Service Training
- UniCarriers Technical Training College
- Manufacture forklifts; classes I,II, III, IV, V
- Operate fleet of 66 forklifts



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UCA SUPPORTS
SAFE FORKLIFT
USE

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FORKLIFT SAFETY TRENDS

Options

- Hip restraints
- Blue light
- Orange seat belt
- Canopy covers
- Strobe lights
- LED headlights
- RF/Integral scale/PC
- Camera



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DESIGNING
SAFETY INTO THE
PRODUCT

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FORKLIFT SAFETY TRENDS

Application and usage

- Aisle width & Turning radius
- Pedestrian walkways
- Speed limits
- Lift heights
- Overhead obstructions
- Load capacity & requirement
- Surface grade, indoor/outdoor

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USE THE RIGHT
EQUIPMENT FOR
THE JOB

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FORKLIFT SAFETY TRENDS

Electrification!

- Electric vs. IC
- Hazards associated with either/both
- Fleet management decisions
- Battery management
- # shifts/day
- Indoor/Outdoor
- Surface grade?
- Residual value
- Noise

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FORKLIFT
PROPULSION

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FORKLIFT SAFETY TRENDS

Maintenance

- Daily checklist
- Recommended PM schedule
- Chain stretch, Fork wear
- Model/Capacity plate
- Tire condition
- Engine: oil/filter
- Hydraulic system
- Battery management

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PREPARE FOR
SAFETY

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FORKLIFT SAFETY TRENDS

Fleet management:

- Telematics
- Maintenance records
- Crash detection
- Safety checklists
- Driver access control
- Task assignment

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IOT

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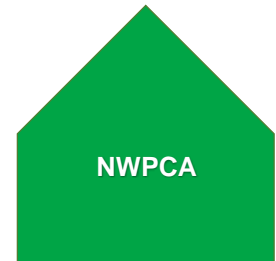
FORKLIFT SAFETY

Training method:

Combine classroom with hands on practice and evaluation

Training materials:

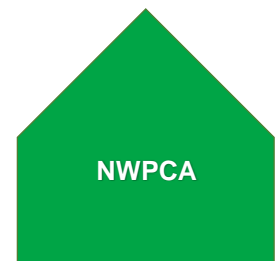
- Video
- Lecture
- Test
- Driving!



**OBSERVE AND
PRACTICE**

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BEHAVIOR BASED SAFETY OBSERVATION PROGRAM



**ZERO INJURY
CULTURE**

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BEHAVIOR BASED SAFETY PROGRAM

CHARTER:

Enhance safety management system by adding BBS to develop a zero injury mindset and culture.

Expected outcomes

- Increased awareness of safe & unsafe behaviors
- Avoiding unsafe acts
- Increased safety management ownership
- Peer to peer discussion

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BBS: DEFINITION

“Behavior-based safety is the application of behavioral psychology to promote safe behavior in the workplace using employee involvement. It involves initially identifying practices (behaviors) critical to reducing the risk of injury. These practices and behaviors are then compiled into a checklist that employees use to collect data on safe and unsafe practices within the organization. Finally, employee teams analyze data gained from observations to develop action plans that promote continuous improvement in safety”

<https://www.qualitysafetyedge.com/behavior-based-safety-bbs/what-is-behavior-based-safety>

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BBS: EXPLANATION PT. I

Understanding the reasons people make the choice to engage in unsafe/risky behaviors

- See others engaging in unsafe behavior: “Well, I saw John not wearing his hearing protection so I thought it was ok” or “Ted always does that and you never say anything to him.”
- Thinking it takes too long: “If I do that, I can’t meet my takt time”
- Thinking they won’t get hurt: “I’ve done that a hundred times and never been hurt”

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BBS: EXERCISE

- When have you made an unsafe/risky choice?
 - At work
 - In your personal life
- What made you decide to make that choice?
 - Peer pressure?
 - Had done it before without consequence

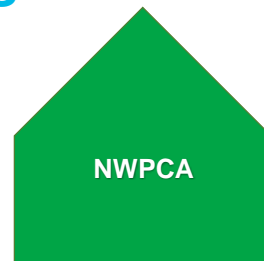
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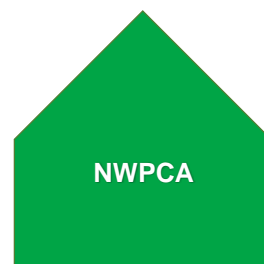
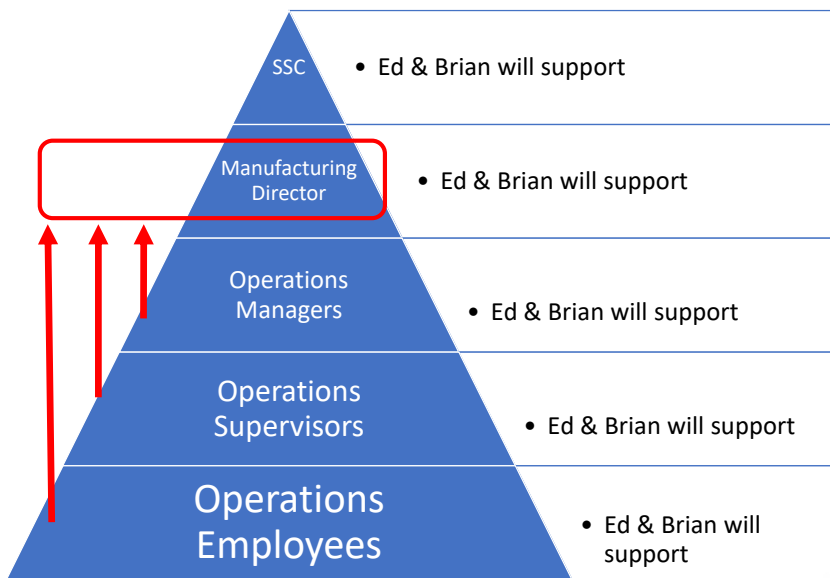
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SAFETY MANAGEMENT SYSTEM + BBS

Element	Detail	Top Down/ Bottom Up	What	How	Why
BBS observations	Peer to peer	BU		x	x
OHSAS 18001	PFEMA/RPN/OP's/SI's/Audit	TD	x	x	x
Monthly S.A. (MGR)	Departmental focus	TD	x		
Genba Kanri Audit	Process audit	TD/BU	x	x	x
3 rd Party Audit	"OSHA" like compliance	TD	x		
Safety Team	JSA, feedback, CFT	BU	x	x	x
Incident Analysis	Employee, Supv., M.E. (SS)	TD/BU	x	x	x
Orientation	6 hr classroom	TD	x	x	x
Safety VIP	Reward individual CI	BU	x	x	

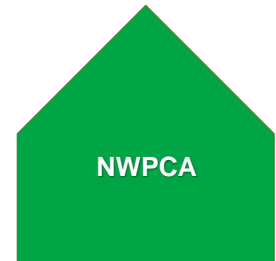


BBS: LEADERSHIP & OWNERS



BBS: CFT PARTICIPATION

- All Manufacturing
- Material Control
- Inventory Management
- PDC
- GCTA
- Quality
- Facilities
- Mfg. Engineering



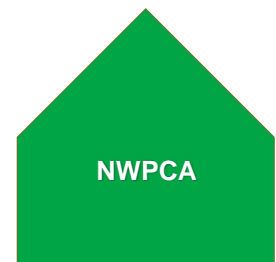
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CULTURE: CFT**

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BBS: TRAINING CONTENT

- How to give/receive feedback
- Ergonomics
- PPE
- Standard work

- Videos, team observations



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BBS: HOW TO GIVE FEEDBACK

5 Steps:

- 1) Start the conversation
 - Positive but clear statement: " This is a safety discussion"
- 2) Deliver the feedback
 - Don't judge, probe, label
 - Do reflect content, feeling, advise
 - Focus on the observed behavior
- 3) Describe safer alternative
 - Why, How
 - Think win-win
 - Specific
- 4) Listen for response
 - Empathy
 - Reflection
 - Understanding
- 5) Close the conversation

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BBS: HOW TO OBSERVE

- Observe from your station, department
- Observe during normal travel during work day
- Use approved observation form
- Take notes if possible (add detail)
- Ask questions if not sure about PPE, tools, method
- Have a brief feedback discussion
- Observation focus areas will change over time based on actual data

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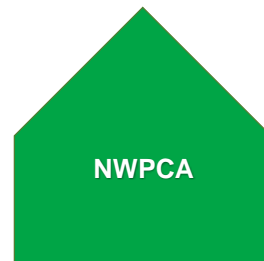
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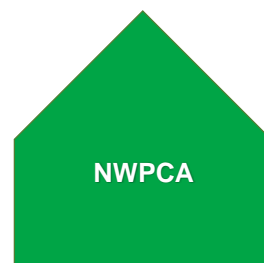
BBS: OBSERVATION FORM

BBS OBSERVATION CARD

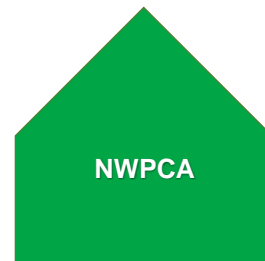
Observer's Name:		Badge #	Date/Time:		Supervisor:
Area Being Observed:		Task Being Observed:		Number of People Observed:	
Personal Protective Equipment		Safe	Unsafe	Feedback/Recommendation	
Glasses		<input type="checkbox"/>	<input type="checkbox"/>		
Hearing Protection		<input type="checkbox"/>	<input type="checkbox"/>		
Bump Caps		<input type="checkbox"/>	<input type="checkbox"/>		
Gloves		<input type="checkbox"/>	<input type="checkbox"/>		
Tools and Equipment		Safe	Unsafe	Feedback/Recommendation	
Right for Job		<input type="checkbox"/>	<input type="checkbox"/>		
Condition		<input type="checkbox"/>	<input type="checkbox"/>		
Used Correctly		<input type="checkbox"/>	<input type="checkbox"/>		
Positions of People		Safe	Unsafe	Feedback/Recommendation	
Lifting/Lowering		<input type="checkbox"/>	<input type="checkbox"/>		
Pushing/Pulling		<input type="checkbox"/>	<input type="checkbox"/>		
Repetitive Motion, Twisting/Turning		<input type="checkbox"/>	<input type="checkbox"/>		
Caught In, On, or Between Objects		<input type="checkbox"/>	<input type="checkbox"/>		
Forklift Operations		Safe	Unsafe	Feedback/Recommendation	
Use of Spotter		<input type="checkbox"/>	<input type="checkbox"/>		
Use of Seatbelt		<input type="checkbox"/>	<input type="checkbox"/>		
Speeding/Horn/Blue Lights		<input type="checkbox"/>	<input type="checkbox"/>		
Hammers		Safe	Unsafe	Feedback/Recommendation	
Is There Alternative		<input type="checkbox"/>	<input type="checkbox"/>		
Correct Type / Size		<input type="checkbox"/>	<input type="checkbox"/>		
Condition of Hammer		<input type="checkbox"/>	<input type="checkbox"/>		



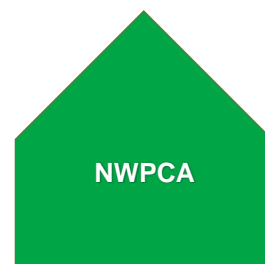
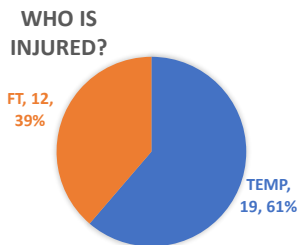
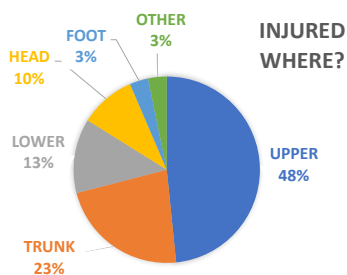
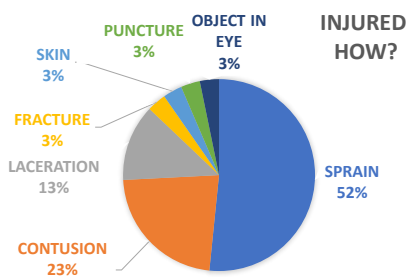
BBS: OBSERVATION EXERCISE



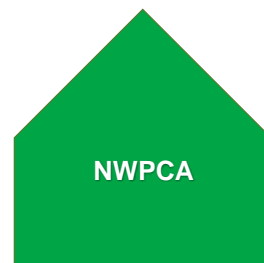
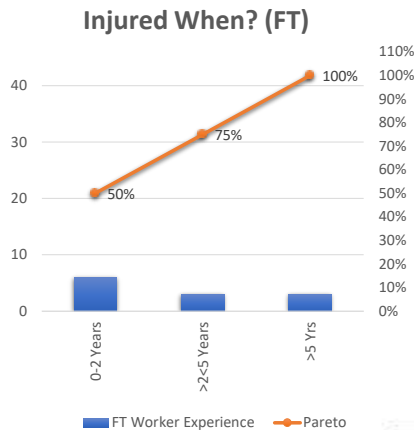
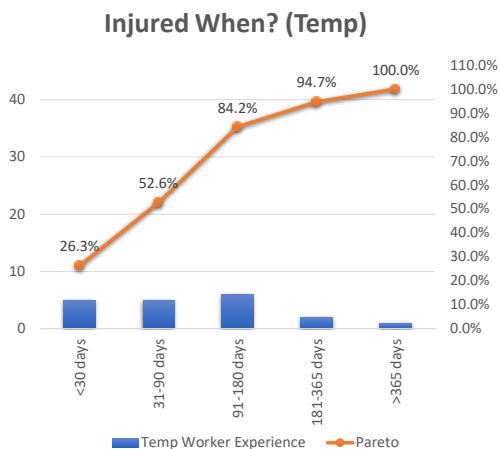
BBS: OBSERVATION EXERCISE



BBS: FOCUS AREAS



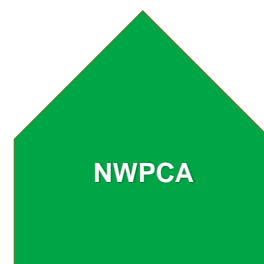
BBS: FOCUS AREAS



BBS: RACI

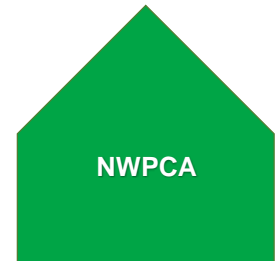
R:responsible, A:accountable, C:consulted, I:informed

Element	R	A	C	I
Observations	EE's	EE's	Supvs	Mgr,SSC
Training the Managers	M.E.	M.E.	SSC, Jim	SSC
Training the Supervisors	Mgrs	Mgrs	Jim, M.E.	SSC
Training the Employees	Supvs	Supvs	Mgrs, M.E.	Jim
Collect & Review Observations	Supvs	Mgrs	Jim	Jim, Mgrs, SSC
Develop Reporting Tool	M.E.	M.E	All	All
Report Monthly Progress	Jim	Jim	All	All



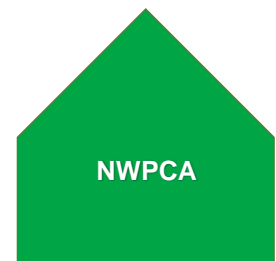
BBS: SUPERVISOR ROLE

- Assist employees with observation form
- Collect forms throughout week
- Review data in forms, have discussions
- Ask observed employees about peer to peer discussions
- Identify trends for proactive daily safety talk/patrol



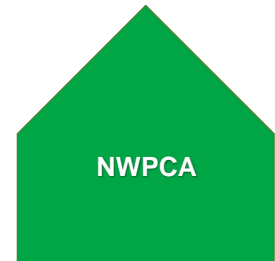
BBS: MANAGER ROLE

- Teach why we are adding this to our safety system
- Teach how to observe and provide useful feedback
- Correct any deficiencies
- Provide new areas of focus as required
- Advocate for the change
- Promote the injury free mindset
- Be prepared for "I don't have time"



BBS: MFG. ENG. TEAM ROLE

- Archive reports from each department
- Develop system reporting tool to facilitate monthly reporting by department
- Provide feedback to Dir. Mfg. as required
- Model the desired behaviors
- Participate with observations

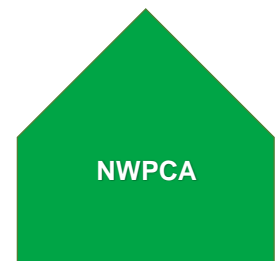


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BBS: SSC ROLE

- Review monthly results
- Prepare monthly summary for SLM
- Address concerns/recommend adjustments
- Listen to concerns

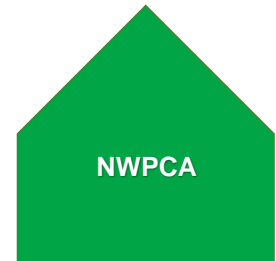


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BBS: PILOT

- Select a small group of enthusiastic individuals across within manufacturing and material control
- Begin daily observations for 1 week
- Review observations for 1 week
- Mfg. leadership team recommends adjustments based on pilot period
- Incorporate feedback into launch

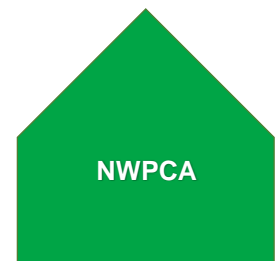


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BBS: TRAINING METHOD

- Behavioral psychology understanding
- Video observation
- Pair off
- Provide feedback (1 direction)
- Repeat with new teams
(each person sends/receives)
- Discuss results



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BBS: SCHEDULE

Item	Apr	May	Jun	Jul	Aug	Sep	Oct
Project Approval	x						
Training Materials		x					
Observation Form		x					
Manager Training		x	x				
Supervisor Training			x				
Employee Training			x	x			
Pilot			x	x			
240P Rollout			x	x	x		
201P Rollout				x	x		
PDC Rollout					x	x	
Execute							



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BBS: OBSERVATION METRICS AND GOALS

Department	Participants	Observations/wk	Observation/yr
420/491	20	1	1000
431	37	1	1850
435	12	1	600
451/452	18	1	900
453/755	5	1	250
454	7	1	350
455	12	1	600
752	13	1	650
754/756	44	1	2200
800/810	22	1	1100
820	11	1	550
GCTA	7	1	350
PDC	10	1	500
Total	228		11,400



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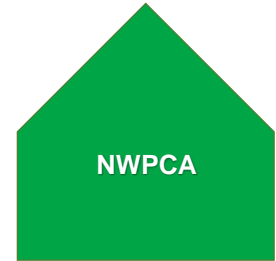
BBS: CULTURE CHANGE

Harvard Business Review

Ralph Steyer: Johnsonville Sausage

“How I learned to let my workers lead”

Culture Change



THANK YOU NWPCA!

