Cutter Lighting - Innovation

Joplin Folding
Joplin, MO
Old Cutter Roof

Metal & Solid Deck Wood – Roughly 2’ x 6’
9 Sheets at 85 lbs./ea.
Issues

- Creates a Dark Environment
  - Bumps, Scrapes, Cuts Potential
  - 35 Near Misses Reported

- Panels are Heavy – Strains/Sprains
  - Overall – When employees are performing tasks with heavy objects and inside dark equipment – SAFETY becomes compromised.
Employee Engaged Team:

Curt Avicola – Team Leader

Members – John Lunceford, Kevin Gilmore, TJ Turner, Daniel Carlin, Brandon Stidham
DEC (Daily Equipment Care) Team Project Goal

- Reduce RISK Factor by 50%
- Replace Top Covers with Lighter Material
- Purchase Better Lights Inside Machine

Benefits:
- Less weight than OEM covers
- More visibility inside machines
  - Allows Operators to see better
- Reduces Risk – No Injuries!
### Hazard Risk Assessment Worksheet (HRA)

**Facility / Plant:** Joplin Folding  
**Team Members:**  
**WO #:**  
**Project Name:** Cutter Lighting Improvement  
**Curt A., John L., Kevin G., Daniel C., Jason W., T.J. Turner, Brandon S.**  
**Date:** 5/24/2014  

#### Risk Assessment

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>Action or Condition</th>
<th>Hazard(s) Identified</th>
<th>Severity of Potential Incident</th>
<th>Frequency of Exposure</th>
<th>Likelihood of Occurrence</th>
<th>Risk Factor</th>
<th>Recommended Countermeasure</th>
<th>Result Risk Factor</th>
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</tr>
<tr>
<td>1</td>
<td>Pulling Parts off Machine</td>
<td>Strain/Sprain</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>20</td>
<td>Improve Lighting</td>
<td>First Aid</td>
<td>Death</td>
<td>At all times</td>
<td>Highly Likely</td>
<td>5</td>
<td>First Aid</td>
</tr>
<tr>
<td>2</td>
<td>Lifting Guards</td>
<td>Strain/Sprain/Cuts</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>30</td>
<td>Use Fiberglass Roof Decking</td>
<td>1</td>
<td>Death</td>
<td>At all times</td>
<td>Highly Likely</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Using Hand Tools</td>
<td>Striking Against</td>
<td>2</td>
<td>5</td>
<td>5</td>
<td>50</td>
<td>Add Lexan to roof</td>
<td>1</td>
<td>Disabling</td>
<td>Once / Hour</td>
<td>Probable</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Using Power Tools</td>
<td>Striking Against</td>
<td>2</td>
<td>5</td>
<td>5</td>
<td>50</td>
<td>Add Lexan to roof</td>
<td>1</td>
<td>Lost Time</td>
<td>Once / Day</td>
<td>Likely</td>
<td>3</td>
<td>1</td>
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#### Action Results

- **Highest Risk Factor:** 50
- **Reduced to:** 4
- **Risk Reduction %:** 92%
Stripper Section - Before

- Reaching
- Pulling
- Pinching/Gripping
- Turning Wrenches

ALL IN THE DARK!!
Stripper Section - After

- Reaching
- Pulling
- Pinching/Gripping
- Work in General

“WOW, I CAN SEE!!”
Blanker Section - Before

- Reaching
- Pulling
- Pinching/Gripping
- Work in General

Darkness is Evil!
Blanker Section - After

- Reaching
- Pulling
- Pinching/Gripping
- Work in General

Light is Good!
Scrap Delivery Section - Before

- Reaching
- Pulling
- Pinching/Gripping
- Work in General

This area wasn’t as bad, but still dark.
Scrap Delivery Section - After

- Reaching
- Pulling
- Pinching/Gripping
- Work in General

SO MUCH BETTER…and SAFER!!
Innovative & Creative:

Fiberglass Grating 300 lbs./sq.ft.

Lexan Under Grating for More Light – No need to purchase lights inside!
Material Used

- 4 sheets of 300 lb./sq.ft. Fiberglass Grating 3’x6’x1” Model # 6228T42 cost - $50.60 per ft. – McMaster Carr

- 3 sheets Lexan 4’x8’x1/8” $ 90.00 per sheet

- Existing Plant Lights over Cutters – No lights purchased inside machine!
## HRA Summary:

### Safety Hazard Reduction Analysis Project

#### Before

![Image of machine before modifications](image1)

#### After

![Image of machine after modifications](image2)

### Opportunity (Risk):

- 35 Near Misses reported between January 1, 2014 and January 30, 2015. Employees can’t see very good inside the Bobst Cutters due to LOTO also shutting down lighting inside the machine. Too many close calls with scrapes, bruises, etc.

### Path Forward / Controls:

1. Complete 1238 Cutter, then leverage to 1236 and 1237 within 2 weeks.
2. Check new roofing material during weekly PM’s.
3. Leverage to all other facilities and machines with similar roofing.

### Risk Reduction Result:

<table>
<thead>
<tr>
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<th>Risk Before Project</th>
<th>Risk After Project</th>
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<tbody>
<tr>
<td>Risk Reduction Result</td>
<td>50</td>
<td>4</td>
</tr>
<tr>
<td>Risk Reduction</td>
<td><strong>92%</strong></td>
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</table>
Innovation Results:

Near Misses = 35
Initial Risk Score = 50
After Risk Score = 4

**RISK REDUCTION OF 92%**

AVERAGE COST OF MATERIAL = $1,210
AVERAGE COST OF STITCHES = $500
35 NM/Close Calls x $500 = $17,500
OVERALL COST TO BUILD = $3,630

**COST AVOIDANCE = $13,870**
Innovation Summary:

Achieved by:
ENGAGED EMPLOYEES!!