Excellence Award

Plant WM/Fibers Division
Shaw Industries Group, Inc.

February 25, 2011
Company Profile

- **Shaw Industries Group, Inc.,** a subsidiary of Berkshire Hathaway, Inc., is the world’s largest carpet manufacturer and a leading floor covering provider with more than $5 billion in annual sales and approximately 25,000 associates.

- **Headquartered in Dalton, GA,** the company manufactures and distributes carpeting, rugs, hardwood, laminate and ceramic tile for residential and commercial product applications worldwide.

- **Plant WM of Shaw’s Fibers Division** has ~ 335 associates involved in the manufacturing of carpet yarn.
Plant WM
Hearing Conservation Team

- **Ken Dillard**, Plant WM Safety Training Manager and Hearing Conservation Program Administrator

- **Joel Corn**, Plant WM Technical Manager

- **Tom Huntebrinker**, Corporate Industrial Hygiene Manager
Our Initiative

- Plant WM had high noise levels; dual hearing protection was required in two primary departments. Through different implemented engineering controls, noise levels were reduced to 100 – 104 dBA.

- Associates’ hearing was being impacted – STS’s occurred.

- Approach:
  - Noise reduction at source
  - Improve hearing protector effectiveness through fit testing and training
Initiative Details

Reduce machinery noise and associate exposure

- **Engineering Controls** – installed double enclosures around noise emanating sources.

- **Administrative Controls/ Improved Education** – introduced fit test verification system.

- **Personal Protective Equipment (PPE)** – expanded selection of hearing protection devices (HPDs).
Initiative Details - Engineering

Example of double enclosure on Filteco Extrusion Equipment:

Before

After

Designed by Joel Corn, Shaw Plant WM

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Example of noise control results from double enclosure on Filteco Extrusion Equipment:

<table>
<thead>
<tr>
<th>Location</th>
<th>Pre-enclosure dBA</th>
<th>Post-enclosure dBA</th>
<th>Hood Insulation dBA</th>
<th>Total Reduction dB</th>
</tr>
</thead>
<tbody>
<tr>
<td>F/16 #2</td>
<td>111.4</td>
<td>104.9</td>
<td>103.9</td>
<td>7.5</td>
</tr>
<tr>
<td>F/16 #6</td>
<td>110.8</td>
<td>102.7</td>
<td>101.8</td>
<td>9</td>
</tr>
<tr>
<td>F/16 #11</td>
<td>107.3</td>
<td>100.2</td>
<td>99.7</td>
<td>7.6</td>
</tr>
<tr>
<td>Packout table</td>
<td>106.4</td>
<td>98.6</td>
<td>96.8</td>
<td>9.6</td>
</tr>
</tbody>
</table>
Engineering Controls
Filtoco Extrusion Equipment

Hushcloth® insulating material

Another noise source, covered with guarding and insulating material
Initiative – Administrative/Education

Use fit test verification system to match the HPD to the associate for their work environment.
Protected Exposure Levels: before and after fit-testing

![Bar chart showing protected noise exposure levels, dBA, before and after fit-testing.](chart.png)
Initiative Details - Administrative

- Expanded HPD offerings from 3 to 6 choices.
- Associates are certified to a single HPD using the fit test verification unit. Ongoing fit test verification is administered with annual audiometric test.
- Identified less noisy areas in the work area, encouraged employees to go there when not engaging machinery.
- Instituted in-house audiometric testing.
- Mandated job rotation in each department.
- We strongly encourage employees to immediately submit work orders to repair defective noise abatement equipment.
Initiative Results

- Efforts have resulted in lower noise exposures, as well as increased assurance of hearing protector effectiveness, and focus on hearing conservation by all associates.
- Confirmed STS Rates Reduced.
- Some of the best practices developed at Shaw Plant WM have been adopted by other Shaw facilities.
# Initiative Results

Confirmed STS Rates Reduced:

<table>
<thead>
<tr>
<th>YEAR</th>
<th>CONFIRMED STS</th>
<th>COMMENT</th>
</tr>
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<tbody>
<tr>
<td>2006</td>
<td>5</td>
<td>Prior to noise control</td>
</tr>
<tr>
<td>2007</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>1</td>
<td>Non-production associate</td>
</tr>
<tr>
<td>2010</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

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Initiative Results: Paradigm Shift
Reactions to Fit-test verification

• In the days before fit testing, there was…
  – “…yeah, that looks about right.”
  – “…here, try these. I like them.”
  – “…load up on the NRR, baby! That should do it!”
  – “…now what’s that OSHA de-rating formula again?”

• Now, there is…
  – “…not even close. Let’s try again.”
  – “…let’s determine what HPD gives YOU the best protection.”
  – “…NRR is irrelevant. These 27’s work just fine.”
  – “…Mrs. Smith, your PAR is ___. Worn correctly, this HPD offers plenty of protection for your work environment.”
Future of the Initiative

- Set aside money in each year’s capital budget for additional noise abatement projects.
- Installation of double sound enclosures in another department.
- Continue to research and implement new engineering, administrative, and PPE controls as they become available.
Lessons Learned

- Buy-in for engineering controls can be hard to get but is worth pursuing.
- One location’s engineering control may not translate to another location.
- Before intervention we had a false sense of security with our Hearing Protection Devices.
- People generally want to do the right thing to protect their hearing.
Significance of the Award

- This award provides recognition for successes gained, and lays the groundwork for future noise abatement projects and other interventions company wide.

- Our successes have encouraged our team to seek out additional challenges.
Contact information

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