Global Supply Chain
Broken Health & Safety Links

BY
Jas Singh PhD, CIH
Golder Associates Inc
Kamuela, Hawaii

Presented at the
Yuma Pacific annual 2008 conference
• State of SE Asia H&S Workplace Issues
• Supply Chain H&S Issues
• International Driving Forces
• Maturity of H&S Profession
• Disasters and Opportunities
Globalization of H & S in the Flat World

Good news—growth of Industrial Hygiene in India and China. Bad news—sudden availability of Industrial Hygiene information worldwide, with few resources to implement programs/processes.
Status (and maturity) of IH in several Asian countries (in light of the “flattening” of the world) means easy availability of information to anyone on the net.
Third Party Service Providers

Many hazardous tasks are performed by 3rd party local contractors whose H&S capabilities/programs fall far short of corporate (EHS) goals of a multinational organization

- Electrical, welding, 3rd party service providers with little EH&S experience…cause more accidents. Perhaps biggest concern presently.
<table>
<thead>
<tr>
<th>Third Party Service Providers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examples of Health &amp; Safety practiced by third party service providers to US multinational companies</td>
</tr>
</tbody>
</table>
Laying Carpet in Thailand
(longest extension cord)
Personal Protective Equipment
PPE in Central China

Local Safety Mgr
With bamboo
Hard hat

Jas Singh
Scotch tape to prevent someone inadvertently flipping a switch—a 3rd party provider. 220 volt, no ground fault circuit breakers, live wire exposed
Repair Work in Malaysia
Frayed Cables
Solvents not vented, but shoes are.
Metal ladder in middle of water.
Fixing Light Fixture
Supply Chain Issues

This is just a visual thing to show an agreement with the supplier of services or materials, sort of supply chain agreement
Global Supply Chain
Broken Health & Safety Links

“CHINESE WORKERS LOSE THEIR LIVES PRODUCING GOODS FOR AMERICA”

Loretta Tofani
Salk Lake Tribune

Loretta Tofani will be the keynote speaker at the 2008 PCIH in Tampa, Florida
Supply Chain
Broken Links

• Major brand name products sold in North America are produced in local shops where the level of worker H & S can be very basic and unsatisfactory

• Even for the products that are assembled/produced at the multinational corporation facilities and under care and supervision, many components or ingredients for the product are supplied by local companies whose H&S program may be rudimentary and no match to the goals and objectives of the multinational producer
Global Supply Chain
Broken Links

‘With each new report of lead detected on a made-in china toy, Americans express outrage: These toys could poison children. But Chinese workers making the toys and countless other products for America - touch and inhale toxic and carcinogenic materials every day all day long’

Loretta Tofani
Salk Lake Tribune
Global Supply Chain
Broken Links

“New York Manhole Covers, Forged Barefoot in India”

“Eight Thousand miles from Manhattan, barefoot, shirtless, whip-thin men rippled with muscle were forging prosaic pieces of the urban jigsaw puzzle: manhole covers”

New York Times

Men not wear shirts for they catch fire.
Driving Forces

- New Legislation
- Increased Awareness
- Learning from Disasters
- Impact of Multi-nationals
- Insurance Companies
- Risk Management
- ISO Certifications/OHSAS 18001

Insurance—Travelers/Liberty Mutual, big impact in US. Travelers Insurance growing in SE Asia. More insurance companies offering loss control services.
ISO—14000; OHSAS—British, non-ISO
Corporate Social Responsibility
A New Blueprint for Health and Safety

“Health and Safety has changed and started to embrace social issues. And while the public is very sensitive to traditional concepts of Health and Safety, the ongoing debate on corporate responsibility is Broadening THE DEFINITION OF Health and Safety beyond fatalities and lost time injuries”

Karen Clark-Whistler
Golder Associates
The CSR debate has been spawned by the global spread of capitalism which has greatly increased the power and reach of business.

Of the biggest economies in the world, most are multi-national businesses.

Few effective regulatory mechanisms for dealing with international multi-national issues

That leaves society and market forces to regulate business behaviour
animate so first left hand colour comes up
then right hand colour block comes up and left disappears (to illustrate context of cause-effect)

In this slide, we argue that as the original CSR parameter, H&S should be at the core of CSR and key driver of CSR going forward.
Global Supply Chain
Industrial Hygiene Disaster in the Making

The need for basic Industrial Hygiene skills in fast developing Asian economies far exceeds what is available. At this pace of development, future Industrial Hygiene disasters in China & India will totally dwarf disasters such as Galley Tunnel seen in the US in the past.
Growth of Industrial Hygiene
In India

First Industrial Hygiene graduating class, MS degree programs. Since then, 7 classes have been conferred their MS degrees.
Myanmar is a country next to Thailand, used to be called Burma during the British days. It is ruthless military dictatorship but even in Myanmar, I met physicians who want to be CIH’s.
Offense to surf the internet absent permission from the government. No access to computers.
Kuwait had a phenomenal ASSE meeting recently during which Jas Singh was able to present on “how to become a CIH”. Jas also proctored the CIH exam in Kuwait (2 candidates, one passed, sp 50 % pass rate, not bad compared to 39% pass rate in the US).
Industrial Hygiene is thriving, even boasting an annual IH conference. Sabrina, a CIH, and a founder of the Malaysian Industrial Hygiene Society, conducted their own 5 day CIH prep class.
Moving over to Singapore, the costs to take the CIH exam are borne by the local safety engineers. Catered lunch. Tremendous desire in SE Asia for people to become certified. Opportunities for US based EH&S professionals to contribute to their growth.
<table>
<thead>
<tr>
<th>Country</th>
<th>No. of internet users (thousands)</th>
<th>Percent of Population using internet</th>
<th>GDP-PPP</th>
<th>IH practice (minimal to advanced)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Myanmar</td>
<td>64</td>
<td>0.1</td>
<td>1,700</td>
<td>Minimal</td>
</tr>
<tr>
<td>Vietnam</td>
<td>590</td>
<td>7.0</td>
<td>2,800</td>
<td>Basic</td>
</tr>
<tr>
<td>Philippines</td>
<td>780</td>
<td>8.7</td>
<td>5,100</td>
<td>Basic</td>
</tr>
<tr>
<td>India</td>
<td>51,000</td>
<td>4.6</td>
<td>3,300</td>
<td>Intermediate-COE</td>
</tr>
<tr>
<td>China</td>
<td>111,000</td>
<td>8.3</td>
<td>6,800</td>
<td>Intermediate-COE</td>
</tr>
<tr>
<td>Thailand</td>
<td>840</td>
<td>13</td>
<td>8,300</td>
<td>Intermediate-COE</td>
</tr>
<tr>
<td>Malaysia</td>
<td>10,000</td>
<td>42</td>
<td>12,100</td>
<td>Intermediate-COE</td>
</tr>
<tr>
<td>Singapore</td>
<td>2,400</td>
<td>53</td>
<td>28,100</td>
<td>Advanced</td>
</tr>
<tr>
<td>Taiwan</td>
<td>14,000</td>
<td>63</td>
<td>27,600</td>
<td>Advanced</td>
</tr>
<tr>
<td>USA</td>
<td>200,000</td>
<td>67</td>
<td>41,800</td>
<td>Advanced</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>490</td>
<td>71</td>
<td>32,900</td>
<td>Advanced</td>
</tr>
<tr>
<td>Korea</td>
<td>34,000</td>
<td>71</td>
<td>20,400</td>
<td>Advanced</td>
</tr>
</tbody>
</table>

May be of some interest that the % of internet users correlates to the maturity of Industrial Hygiene.

GDP-PPP = Gross Domestic Product-at Purchasing Power Parity (value of all goods and services produced within a nation in a given year divided by the average population for the same year. Cite examples.
Observations

- Middle income economies fertile ground for training, educating and “evangelizing”. Highest demand for IH in teaching and collaborating
- Largest growth & demand for IH-- China and India
- Conversions from the “RUSSIAN SYSTEM”
- Insufficient trained occupational S & H persons. Likely to be insufficient trained persons for at least another decade, both for industry and for government

Russian System is the system still in much of Asia-- IH is considered part of the medical profession and not recognized as a discipline. The preventative aspect of IH are not recognized.
Specific Opportunities

- Technology transfer (Exposure assessment techniques, Control strategies)
- Health & Safety of third party contractors, supply chain partners
- Training (supervisory & managerial levels)
- Industrial ventilation
- Influencing legislation
Industrial Hygiene Disaster in the Making
What Can Be Done?

Corporate Social Responsibility. What can US (and other western) Multinationals do?

What can US IH professionals do?

What can the AIHA and the Academy do?