

Raytheon's Safety Program Getting to Injury Free



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AIA EHS Committee
Meeting
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Raytheon
Customer Success Is Our Mission

We Are Proud of our AIA Safety Awards!

2005



Safety Excellence -
Aerospace Components



Safety Excellence Award –
Missile/ Space



Safety Excellence -
Aircraft

2006



Safety
Excellence
Award Missile/
Space

2009



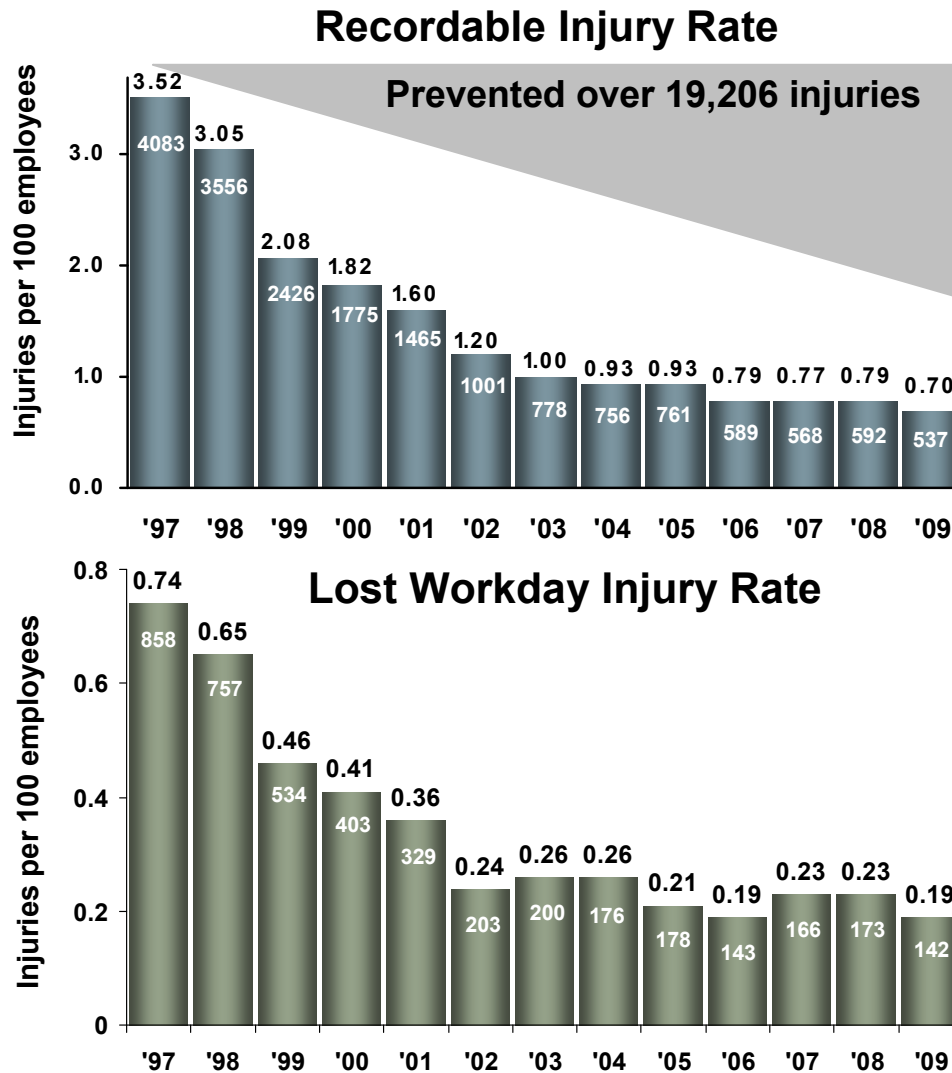
Safety Excellence Award
Missile/ Space

2008



Safety
Excellence
Award
Missile/
Space

Protecting People



- We've been at this for a long time
- Recordable injury rate has declined 80% since 1997
- Prevented over 19,000 injuries
- Injury rates are at their lowest ever
- Safety program focuses on protecting people
- "Aerospace Components" injury rates:
 - ORIR= 0.62
 - LWIR = 0.17



Actual number of injuries shown inside bars

Our CEO 'GETs IT'



CEOs Who 'Get It' Award from the National Safety Council

Swanson Recognized as Safety Leader by Safety+Health Magazine



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Raytheon Chairman and CEO William H. Swanson is recognized as one of the 2010 "CEOs Who 'Get It'" by the National Safety Council's Safety+Health magazine. The publication's February issue profiled world-class safety leaders — chief executives whose leadership philosophies and actions demonstrate their commitment to worker safety and health, and who understand the link between workplace safety and business success.

Raytheon employees achieved their safest year yet in 2009. The overall injury rate for the company was at a historic low of 0.70 at the end of the year, placing Raytheon in the lead among industry peers. This number represents a 12 percent decrease in injuries at Raytheon. Operating locations that are OSHA (Occupational Safety and Health Administration) Voluntary Protection Program (VPP) Star certified lead the way with a combined injury rate of 0.5. VPP is OSHA's premier recognition program for sites that have achieved a high level of safety and health excellence. There are now more than 15,000 Raytheon employees participating in VPP at 11 locations throughout the company.

Safety of Key Importance to Raytheon
Achieving lower injury rates at Raytheon was led by Swanson, who



More Information

["CEO's Who 'Get It'" Article From Safety+Health Magazine](#)

[William H. Swanson - Executive Biography](#)

[Raytheon Corporate Responsibility Report](#)

[Raytheon Safety](#)

[Raytheon Sustainability](#)

[Raytheon's Vision, Strategy, Goals and Values \(VSGVs\)](#)

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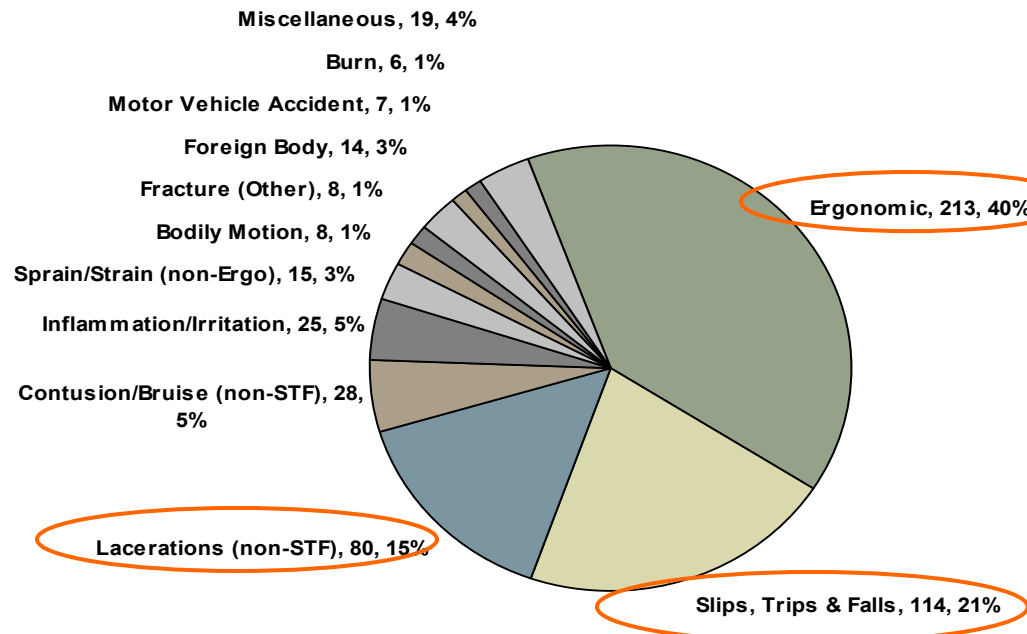
[Features via RSS](#)



Bill Swanson , Chairman and CEO, challenges the company to become an injury-free workplace.

Understanding the Causes of Injuries

2009 Total Number of Recordable Injuries – 537



Ergonomic – 40%

- Lifting, Pushing/Pulling, Repetitive Motion, Excessive Force, Awkward Position
- Industrial 79%, Office 21%

Slips, Trips & Falls – 21%

- 46% Outside / 54% Inside
- 24% are weather related
- 42% slip same elevation
- 25% trip over something
- 24% stairs/chairs

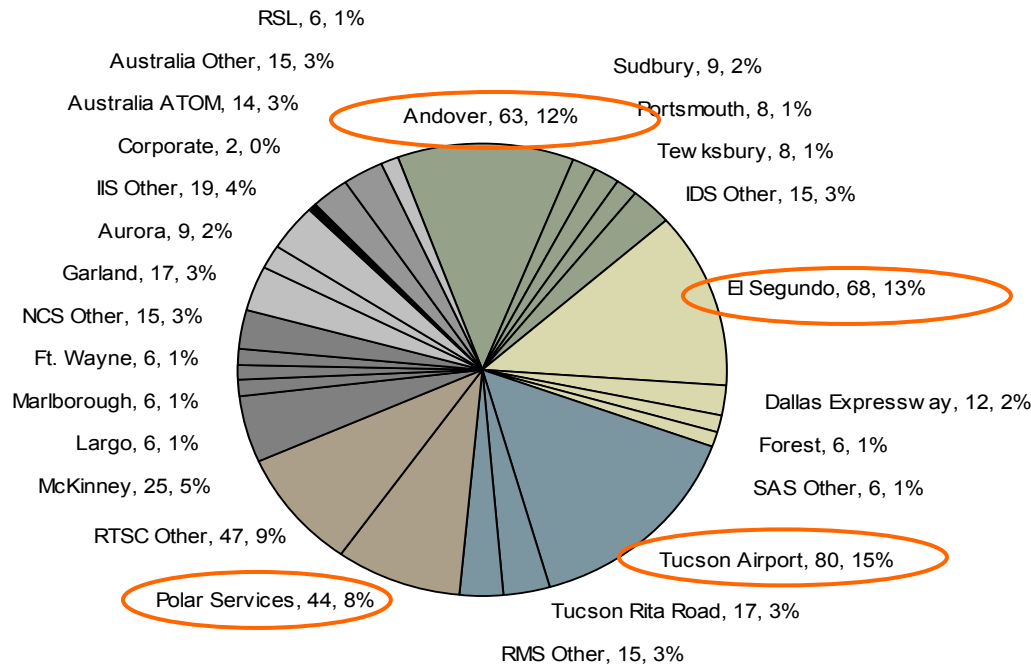
Lacerations – 16%

- Hand tool use 38%

Recordable Injuries by Location

2009 Total Number of Recordable Injuries – 537

(Site Name, # Injuries, % Injuries)



High Injury Locations

- Andover, Tucson, El Segundo account for 39% of all injuries
- Polar Services accounts for 8% of all injuries

Site	# Injuries	ORIR
Tucson AZ - Airport	80	0.86
El Segundo, CA	68	0.98
Andover, MA	63	1.44
Polar Services	44	5.02
RTN Australia	29	1.86
McKinney, TX	25	0.69
Tucson AZ - Rita Rd	17	0.81
Garland, TX	17	0.65
Dallas Expressway, TX	12	0.63

4 Sites with 29% of the Population Account for 47% of Injuries

OSHA Voluntary Protection Program

- Set a long-term goal to achieve OSHA Voluntary Protection Program “Star” Certification at 50 major sites
- Elements of OSHA VPP
 - Management Leadership
 - Employee involvement
 - Hazard identification, analysis and control
 - Training
 - Communication
- 13 sites have achieved OSHA VPP “Star” certification to date
 - Including El Segundo, CA, the 2nd largest site certified (7,000 employees, 3.5 million square feet)
- Over 24,000 Raytheon employees work at OSHA VPP sites
- DOD is pursuing OSHA VPP
 - Mentoring DoD customer locations (e.g., White Sands Missile Range – New Mexico, Portsmouth Naval Undersea Warfare Center- Rhode Island)



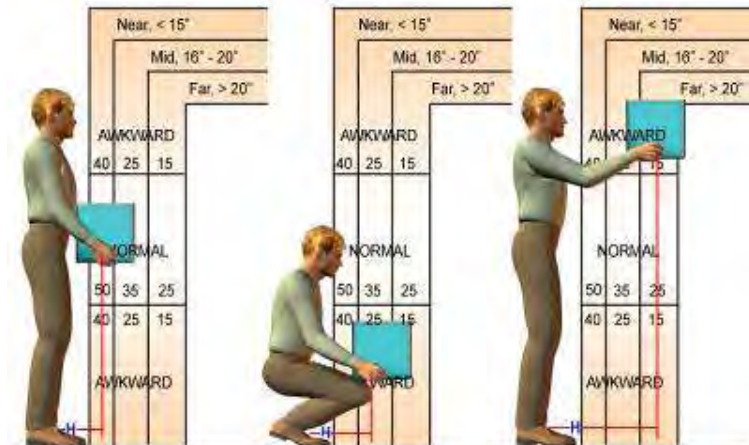
Ergonomic Risk Assessments

- Systematic analysis of operations
- Web-based assessment tools – industrial, manual material handling, & computer assessments
- Ergonomist at the major locations
- Current focus is on industrial and manual material handling – that’s where the injuries are
- Taking the “lift” out

Industrial Ergo Assessment

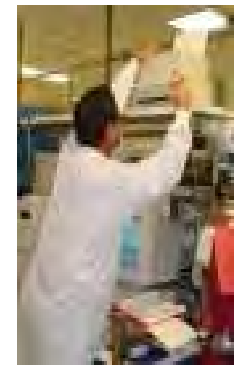
Computer Workstation Assessment

Manual Material Handling Assessment



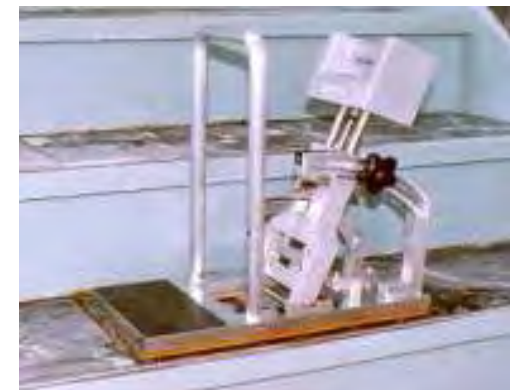
Ergo Hazard Prevention & Control

- Changes to tools, equipment, work surfaces, and processes
- Involve workers in solutions – Raytheon 6 σ projects
- “Before” vs. “after” photos
- Changes usually result in other benefits like cycle time reduction, quality improvements, employee satisfaction



Slips, Trips and Falls Assessment of Risks

- **Tribology:** Study of the interactions of sliding surfaces. It includes three subjects: Friction, Wear and Lubrication –
- Partnering with Liberty Mutual Insurance
- Tribology Studies conducted at many facilities
- Contributing factors
 - Physical conditions
 - Walking surface (material type, contamination/condition)
 - Construction and maintenance
 - Transitions between surfaces
 - Cleaning/waxing products
 - Pedestrian contact factors
 - Footwear type (contamination/condition)
 - Human and behavioral factors
 - Physical and mental condition
 - Distractions
 - Walking/running speed



Brungraber Mark II Slip Tester

Coefficient of Friction Table	
0.60 or above	Very safe
0.50 to 0.59	Relatively safe
0.40 to 0.49	Dangerous
0.35 to 0.39	Very dangerous
0.00 to 0.34	Unusually dangerous

Tribology Study - Lessons Learned



**Equipment stair treads inconsistent in height and width.
Limited visibility on a couple stairs.**

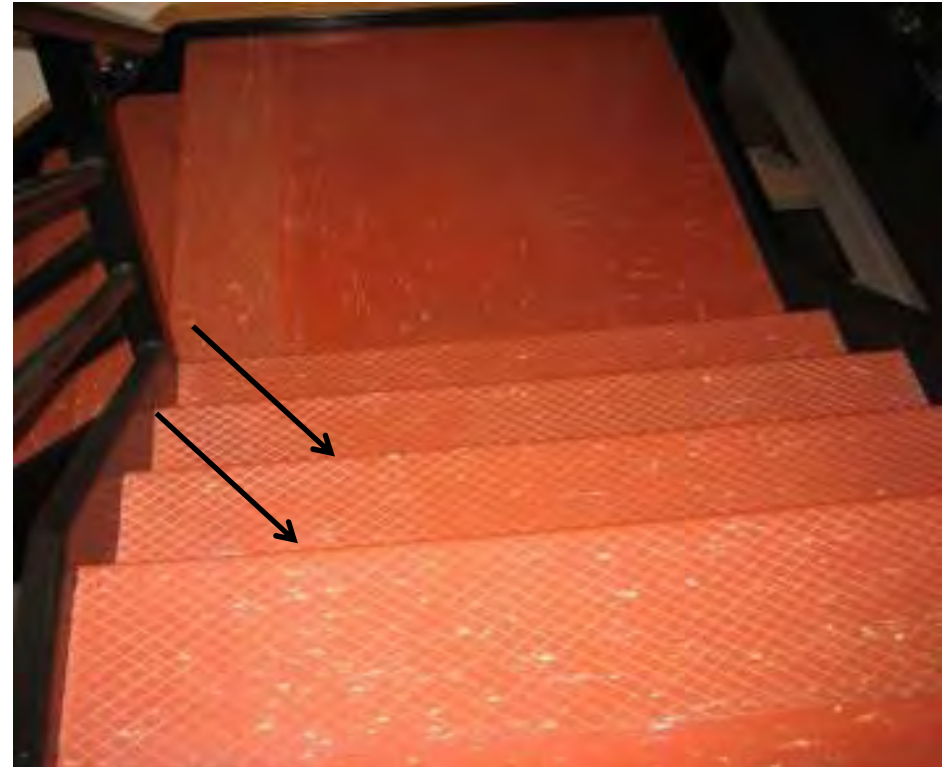


Loose mats on stair treads



Worn mats may cause trip hazards

Tribology Study - Lessons Learned



Limited visual contrast between stairs

Tribology Studies – Parking Lots



**Transition Between Concrete and Asphalt
(1" variance)**

**Liberty Mutual recommends no more than
 $\frac{1}{4}$ inch variance in surfaces**



Placement of Curb Cuts

Tribology Studies – Slip Meter Testing



Communications: Safety Flashcards and Alerts

Have You Seen This?
Safety Flashcard
Flash #25, Ceiling Tiles

What's wrong with this picture?

Ceiling tiles are not in place to fully enclose the false ceiling. The missing tiles allow for fire, smoke and heat to spread into the portion of the ceiling where overhead sprinklers and smoke detectors can not detect or prevent it.

To fix it:

Contact the Facilities Services Solution Center at x40217 to have ceiling tiles put in place.

Any questions or concerns can be directed to the area EHS representative.



Watch for fire dangers!!!!

Related procedure: International Fire Code 703.1, Maintenance

Have You Seen This?
Safety Flashcard
Extension Cords – Requirements for Use, Flash #11

Extension cords are temporary flexible cables with outlets used to distribute electrical power to portable equipment.

- Must be UL listed and approved for applied use.
- Must not be frayed, exposed or have visible signs of damage.
- Must not be used only for use with portable equipment (this specifically excludes use with refrigerators, copy machines, and other large non-portable appliances).
- Must be plugged directly into permanently installed wall receptacles.
- Must not be connected in series to one another or "daisy chained."
- Must not be attached to building surfaces or hardware, run through or concealed behind walls, ceilings, and windows, or through door openings.

Inspect your work area today!! - if you require an electrical outlet installed to eliminate the use of extension cords in your work area, contact the Facilities Solution Center at 794-8217.

Extension cords used improperly for permanent wiring




Inappropriate attachment of flexible cord to building elements



Even Small Spills Can Injure
Safety Alert
Slip — Alert 2009-3

Incident

On Aug. 31, 2009, an employee was heading home when she slipped and fell in the hallway of building 801 and hurt her knees.

Cause

- Someone had spilled water on the tile floor. The employee was unaware of the hazard because it was difficult to see.
- The spilled liquid on the hallway floor had not been cleaned up or marked with caution cones.

What should you do?

- If you spill something, clean it up!
- Take personal responsibility for your actions. Your spill could seriously injure someone else.
- Do not walk away from a spill and leave it unattended. If possible, ask someone to stand guard while you get the necessary material to clean it up.
- If you see a spill, clean it up. Walking by a spill makes you as culpable as the person who made it.



Communications: “Why I Work Safe Campaign”

Why I Work Safe

