VETERANS of SAFETY

2016

VOS July Newsletter

Message from VOS Newsletter editor Warren K Brown, CSP, ARM, CSHM:
Make sure to visit our website at http://vetsofsafety.org/ to get more information about VOS. Have a good safe day.

Table of Contents

FOUNDED OCTOBER 9, 1941

A NOT FOR PROFIT ORGAINZATION

Volume 30 Number 2 Summer 2016

VETERANS OF SAFETY

AN INTERNATIONAL ORGANIZATION

Newsletter

VOS President's Address

Mark C. Rater

Fellow Veterans of Safety,

The VOS board of Directors has been meeting on a regular basis and we are in the final stages of getting our October 8th VOS annual meeting in Kansas City finalized.

My hope is that all of you are having a successful and rewarding year. Your Board continues to move the organization forward. During our June VOS board meeting we discussed the history of The Safety & Health Hall Of Fame International (SHOFFI) and the long standing relationship we have had together over the years. VOS founded SHHOFI in 1986. An in depth discussion regarding options, logistics, expenses, administration requirements and long term impact of SHOFFI returning to the VOS family.

VOS By-Laws notes one of the purposes for VOS under Article II Section I:
"To work toward the establishment of a living legacy that will pay homage to those Safety and Health Professionals who gave unselfishly, so that one day all persons will enjoy life that is free of recognized hazards."

SHOFFI exemplifies this part of our purpose and it makes sense for us to be connected. Pat Conroy (VOS Board member) raised a motion for "VOS to assume administrative and financial control and responsibility for SHHOFI and the administration of Hall of Fame plaques and historical documents." The VOS board voted on this during the June meeting and it passed unanimously.

I look forward to this being a great move for VOS & SHOFFI. We have already found one potential addition to SHOFFI in the near future. We will continue to work through this process. I want to thank you for your support.

Remember to go to our VOS website @ https://www.vetsofsafety.org/

Report from the treasurer

Jack B. Hirschmann, Jr.

Standards Update

I serve on many standards and I thought it would be interesting to our members of VOS to cover new or changes to safety standards in this newsletter.

Today I will discuss ANSI/ISEA 125-2014 “American National Standard for Conformity Assessment of Safety and Personal Protective Equipment”. The standard is designed to provide a system that can be used to determine the compliance to a standard. The key is the 3 levels of testing and certification of the product.

Level 1. The manufacturer or supplier self certifies to a standard. It is suggested for specifying of purchasing products used in a hazard that could cause a superficial injury.

Level 2. The manufacturer or supplier must maintain a quality management system acceptable to a third party or certifying organization like ISO. It is suggested for products that protect against hazards that can not be anticipated that could cause irreversible injury.

Level 3. The manufacturer or supplier must maintain a quality management system that is acceptable to a third party certifying organization. It is suggested for products that protect against grave and irreversible injuries that can not be anticipated.

These levels are not a requirement of a manufacturer unless incorporated in specific safety standards. They are a means for a manufacturer to convey to a purchaser the level of their quality management system or for a user to require the level they expect when ordering a product. Currently NFPA is considering including ANSI/ISEA 125-2014 in the 2018 edition.

If you have any questions or would like me to cover a particular standard in future newsletters, please contact me by email at Jhirschmann@oberoncompany.com

Jack B. Hirschmann, Jr.

Treasurer VOS

VOS Visionary Scholarship by ASSEF

Submitted by Warren K Brown, CSP, ARM, CSHM

Fellow Veterans of Safety,

We are happy to announce that the ASSEF selected the 2016 Scholarship recipients and The Veterans of Safety Scholarship was awarded to **Madison Wilkins at Slippery Rock University of Pennsylvania working on an Associate's Safety Management degree**. Congratulations to Madison for earning this scholarship. We of the VOS are glad we can be of some help in her journey to a position in the safety profession!.

At the ASSE House of Delegates meeting on June 26, I gave $100 more to be added to our VOS Visionary Scholarship Fund. I would encourage any of you that so chooses to continue to add to our VOS Visionary Scholarship fund. This may be a tax deductible event for you depending on your individual tax situation.

At the ASSE Professional Development Conference "SAFETY 2016" in Atlanta on Sunday June 26 and Tuesday June 28 Scholarship Visionary Donors and recipients were recognized. Attached are pictures of the Screen at the conference and the PDC program.

Screen at front of General Session at the ASSE 2016 PDC in Atlanta with as many as 4000 members in attendance. All new Visionary Donors were recognized which included the Veterans of Safety!

The following two pages exhibits the materials that appeared in the ASSE "SAFETY 2016" final program given to all the participants and shown in the ASSE "Safety 2016" app:

ASSE FOUNDATION

2016 SCHOLARSHIP RECIPIENTS

Corporate Awards

Applications International Corporation Impact Scholarships
Doris Burns - $10,000
Raymond Camacho - $10,000
James McIntyre - $15,000
Matthew Toenniges - $10,000

Applications International Corporation Sponsored Scholarships

James Joseph Davis Memorial Scholarship
Derek Koller - $10,000

Scott Sewing Memorial Scholarship
Cindy Medford - $10,000

BCSP - Professional Scholarship
Daniel Johnson - $4,000

BCSP - Technician/Technologist, Supervisory Scholarship
Tanner Neese - $4,000

Bechtel Corporation Scholarship for Safety & Health
Saif Shareef - $10,000

CNA Scholarship
Mark Keller - $5,000

FabEnCo-LaCook Investment For Excellence in Occupational Safety & Health Scholarship
Vitoria Staniszewski - $4,000

ISNetworld Scholarship
Ashley Anderson - $1,000
Sheena Bottorff - $1,000
Ashley Carranza - $1,000

Lancaster County Industrial Safety Council Scholarship in honor or Craig Schroll & Jan Getz
Fred Straub - $1,000

Liberty Mutual Scholarship
Jayson Clinger - $5,500
Brice Griesemer - $5,500

Parsons Corporation Scholarship for Safety & Health
Eric Sapp - $4,500

ProcessMAP Safety Scholarship
Josh Reed - $5,000

SafeStart Scholarship
Clinton Combs - $5,000

Southern Company Scholarship
Rondalynne Fields - $5,000

Texas Safety Foundation Sponsored Scholarships

Charlie Darnell HSE Memorial Scholarship
Rita Bell - $2,000

Del Tally HSE Scholarship
Brian Clark - $2,000

George Gustafson HSE Memorial Scholarship
Nchekwubechukwu Okafor - $2,000

L.C. Meyer HSE Scholarship
Uloma Uche - $2,000

UPS Diversity Scholarship
Amel Ryman - $5,250
Anduyen Ta - $5,250
Vameng Vue - $5,250

UPS Scholarship
Nora Fredstrom - $5,250
Kelly Mehner - $5,250
Alexis Zecha - $5,250

Veterans of Safety Scholarship
Madison Wilkins - $1,000

WorkCare Safety & Health Scholarship
Courtney Blatti - $5,000

ASSE Constituents

Awards established by Chapters, Regions, CIG's, Practice Specialties, Members and their Families

Alaska Chapter Scholarship
Shae Le Bryant - $1,000

America Responds Memorial Scholarship
Nicholas Oakes - $1,000

ASSE Construction Safety Scholarship
Braden Cook - $2,000

ASSE Diversity Committee Scholarship
Menekse Salar - $1,000

ASSE Member Get a Member Scholarship
George Ginter - $1,500

Bervin Hall Memorial Scholarship
Sponsored by the Colorado Chapter
Elaina Giron - $1,000
Megan Rohrer - $1,000

Blacks in Safety Engineering Scholarship
Charles Ezimoha - $1,000

Central Florida Chapter Scholarship
Claire Schmidt - $1,000

Central Indiana ASSE Jim Kriner Memorial Scholarship
Willie Sease - $3,000
Nicholas Zaberdac - $1,000
Robert Hollins - $1,000

Columbia-Willamette Chapter President Scholarship
Alexa Manteufel - $1,500

David V. MacCollum Visionary Scholarship
Sponsored by the Southern Arizona Chapter
Krysta Myers - $1,000

Edgar Atzin Arizona Chapter ASSE Scholarship
Gilbert Lujan Rivera Jr - $2,500

Four Corners Chapter Scholarship
Dylan Stauffer - $1,000

Georgia Chapter Scholarship
Fatma Yildirim - $1,000

Granberry, Fleming, & Ross Scholarship
Brennen Waguespack - $1,500

Great Plains Chapter Scholarship
Doris Burns - $1,500

Greater Baton Rouge Chapter Don Jones Excellence in Safety Scholarship
Emily Carithers - $1,500

Greater Boston Chapter Leadership Award
Winnie Chin - $2,000
Alfredo Parker-Vega - $1,000

Greater Chicago Chapter Scholarship
Robert Hanna - $1,000

Gulf Coast Past President's Scholarship
Kayli Mangus - $2,000
Justin Russell - $2,000

Harold F. Polston Scholarship
Sponsored by the Middle Tennessee Chapter
Rachel Ragovin - $1,500

Harry Taback 9/11 Memorial Scholarship
Marie Hayden - $1,000

Heart of America Scholarship
Bradley Minor - $1,000
Kelsey Smith - $1,000

James P. Kohn Memorial Scholarship
Marissa Johnsen - $1,000

Janet Sprickman Award
Sponsored by the National Capital Chapter
Hamidreza Shaki - $1,000

Keith Bain Scholarship
Sponsored by the Middle Tennessee Chapter
Luke Whitmore - $1,500

Linda & Brad Giles Scholarship
Joshua Sarran - $2,500

New England Area Future Leadership Award
Rosemary Rungu - $1,500

Nick D. Yin Scholarship
Miaozong Wu - $3,000

North Florida Chapter Safety Education Scholarship
Kimberly Fuentes - $1,000

Northeastern Illinois Chapter Scholarship
Frank Pagone - $3,000

Northern Ohio Chapter Scholarship
Jim Chambers - $1,000

Oklahoma City Chapter Scholarship
Rachel Sample - $1,000

Past Presidents and Fellows Scholarship
Julianna Jankowski - $7,500

Permian Basin Chapter Endowment
Emanehi Iyioriobhe - $1,000

PhD Scholarship for Future Educators
Wendy McCoy - $1,000

Puget Sound Chapter Martin Brown Memorial Scholarship
Alexa Manteufel - $1,000

Region II Scholarship
Elise Lagerstrom - $1,500

Rixio Medina & Associates Hispanics in Safety Scholarship
Ivan Torres - $4,000

Scott Dominguez - Craters of the Moon Chapter Scholarship
Staci Werner - $1,000

Southwest Chapter Roy Kinslow Scholarship
Jose Bocanegra Yanez - $1,000

Steven F. Kane Memorial Scholarship
Yousif Abulhassan - $2,000

Thomas W. Pollock Memorial Scholarship
Lauren Kokx - $1,500

Thompson Scholarship for Women in Safety
Teniope Adewumi - $1,500

Warren K. Brown Scholarship
Alec Jackson - $1,000

West Florida Chapter Scholarship
Rong Huangfu - $1,000

William C. Ray, CIH, CSP Arizona Scholarship
Taylor Smith - $2,500

ASSE FOUNDATION

2016 GRANT RECIPIENTS

ASSE Global Reach Grant
Gan Eng Wee Alvin - $1,000

Delmar and Betty Tally Professional Education Grant
Amy Fasano - $1,000
Alma Seu - $500

Gabriel Alvarado Professional Education Grant
Sponsored by CITGO Petroleum Corporation and Rixio & Alejandra Medina
Olufunmilola Masha - $500
Jeff Romeo - $1,000
Jacquelyn Seth - $1,000
Colby Baker - $1,000

Gulf Coast Chapter Professional Education Grant
Shawn Helton - $1,000
Meaghan Morris - $1,000
Andrew Wyble - $1,000

Hawaii Chapter Professional Education Grant
James Newberry - $1,000

Kyle B. Dotson Safety Leadership Grant
Bryce Lawlor - $1,000
Tanjia Maynard - $500

Oklahoma City Chapter Grant
Jennifer Hebert - $1,000

Safety Professionals & the Latino Workforce Professional Education Grant
Elisonia Valle - $1,000

Terrance M. Hennessy Professional Education Grant
Travis Ball - $1,000
Garnet Blackburn - $1,000
Sheila Emerson - $1,000
Jennifer Zipeto - $500

Texas Safety Foundation Nancy Petru HSE Professional Education Grant
Bonita Carter-Cox - $1,000
Richard Olawoyin - $1,000

Thomas & Dorothy Reilly Professional Education Grant
Jacqueline Beatty - $1,000

2016 LIBERTY MUTUAL RESEARCH FELLOWSHIP PROGRAM

Ashleigh Tran
Differences in Calibration of Skills in Distracted Driving Situations

Megan France
A Systems-Theoretic Analysis of Workplace Safety Issues at New Jersey Transit

2016 SAFETY MATTERS GOLF OUTING SPONSORS

Major Sponsors
Accuform Signs
eCompliance
FDR Safety
Liberty Mutual Insurance
UPS

Tee and Hole Sponsors
3M
Alabama Chapter
BCSP
Colorado Chapter
Egypt Chapter
Houston Area Safety Council
ISHN
Liberty Mutual Insurance
Middle East Chapter
National Marker Company
New York City Chapter
OHS Magazine
Philadelphia Chapter
Texas Safety Foundation

Goodie Bag Sponsors
Aon
Glove Guard
Koolin' Clothz
Penton
Sportex

ASSE FOUNDATION VISIONARY DONORS

Donations made between April 1, 2015 and March 31, 2016

Corporations
American Society of Safety Engineers
Applications International Corporation
BCSP
Bechtel
CNA
Johnson Controls, Inc.
Liberty Mutual Insurance
ProcessMAP
Southern Company
The UPS Foundation
Veterans of Safety

ASSE Constituents
Arizona Chapter
Central Indiana Chapter
Gulf Coast Chapter
Northeast Iowa Chapter
Northern Ohio Chapter
Oklahoma City Chapter
ASSE Region VIII
ASSE New England Area Chapters
Southern Arizona Chapter
Western Pennsylvania Chapter

Individuals
Warren Brown
Alexi Carli
Kyle Dotson
Brad & Linda Giles
John Henshaw
Darryl & Kimberly Hill
Karl & Beth Jacobson
Martin Jeppeson
Skipper Kendrick
Rixio & Alejandra Medina
Michael Murray
Richard Pollock & Diana Stegall
Joseph Samuels
Steven & Kristina Schoolcraft
Jan Simon Clark
Del & Betty Tally
Linda Tapp
Michael & Judy Thompson

Foundation Legacy Donors
Stephen M. Bennett
Kennith and Mary Brock
Al & Alexi Carli
Margaret Carroll
Tom & Erica Cecich
Frank D'Orsi
Kyle B. Dotson
Fay Feeney
Linda & Brad Giles
Martha & Eddie Greer
Jeremy J. Harris
Elizabeth & Karl Jacobson
Tiffany & Jim Kreinbrink
Alejandra & Rixio Medina
Valerie R. Overheul
Rick & Melayna Pokorny
Richard Pollock
Tom Reilly
Kathy A. Seabrook
Diana Stegall
Amy Stewart
Betty Tally
Delmar "Del" Tally

I ♥ SAFETY

ASSE FOUNDATION

Education | Leadership | Research

AMERICAN SOCIETY OF SAFETY ENGINEERS FOUNDATION

520 N. Northwest Highway | Park Ridge, Illinois 60068-2538 USA | +01.847.699.2929 | +01.847.296.3769 Fax

July 11, 2016

Warren Brown
Veterans of Safety
1855 Campus Dr.
Fairborn, OH 45324

Dear Warren,

Thank you very much for your generous gift of $100.00 during Safety 2016 to support the ASSE Foundation and its programs. I'm incredibly proud to announce that together, ASSE members and chapters raised an extraordinary $135,000 at the House of Delegates Meeting in Atlanta. Not only that, but an unprecedented $85,000 has been directed to Safety Matters, our signature fund. I'm thrilled to see such amazing support from the safety community. There's no doubt that your generosity will greatly benefit the safety profession and all those whose lives are touched by it.

Thank you for standing by the Foundation and for helping to create so many opportunities for the safety community.

Sincerely,

Mary C. Goranson

Mary C. Goranson
Director, Foundation

Awards for Our Members at 2016 AIHce in Baltimore

By Warren K Brown

Two of our members received awards at the 2016 American Industrial Hygiene conference and exhibition(AIHce) "Mark of Excellence Breakfast" held in Baltimore Wednesday May 25.

Tom Slavin, CSP, CIH, CSHM, CPEA who is retired from Navistar and life member of VOS was honored as a 2016 AIHA Fellow Award winner. Tom was nominated by colleagues in the profession for his significant contributions to the practice of industrial hygiene or related disciplines. Congratulations, Tom!

Dianna H. Bryant, CIH, CSP who is working on her Ph.D. was selected to receive "The Golden Seed Award". It is presented to an individual who has demonstrated a commitment to promoting industrial hygiene and /or provided guidance and mentoring to students or early career professionals. Congratulations, Dianna!

Diana Bryant

Tom Slavin

PROVEN PERSUASION PRACTICES FOR SUPERVISORS AND SAFETY PROFESSIONALS

Submitted by Pat Conroy

PLANNING

1. Make clear the role each person will play in accomplishing a task.
2. Understand which decisions can be made alone and which cannot.
3. **Strive to set team or group goals as well as individual goals.**
4. See the value of bringing together people with different opinions.
5. Demonstrate commitment and persistence in achieving goals.
6. Communicate priorities consistently.
7. Insist that group members make every effort to solve problems before taking them to higher management.
8. Treat with an open mind requests to change plans and goals when circumstances seem to warrant change.

CONFLICT

1. Encourage reluctant co-workers to express or defend their opinions.
2. Encourage the open airing of problems and differences of opinion.
3. Respond in a non-defensive manner when others disagree.
4. Try to influence others through knowledge and competence rather than through official status.
5. Be willing to share one's power in the interest of the overall organization.
6. In conflict situations, look for points of reconciliation rather than differences.
7. **Encourage decisions based on logic and the weight of evidence.**
8. Encourage the reaching of decisions through a blending of ideas.
9. Seek new ways to resolve conflicts.

SUPPORT

1. Behave in a trust-inspiring way.
2. Be supportive and helpful to others as they perform their jobs.
3. **Encourage innovation and calculated risk-taking in others (plan with forethought).**
4. Consider others' views according to their logic, not personal preferences.
5. Consider opinions of others open mindedly before evaluating them.
6. Evaluate the view of others according to their knowledge and competence, rather than according to their position.

S, H & E Information Update

Temporary Worker Safety

The host employer and staffing agency must work together to decide who will do the various elements of training for temporary employees. An OSHA guidance document has been issued to better explain this process. It can be downloaded at www.osha.gov/publications/osha3859.pdf. OSHA guidance document www.osha.gov/publications/osha3860.pdf explains the handling of hazard communication training and follow up including any need for personal protective equipment.

Working Beyond Age 65 May Improve Lifespan

An article in the March 21, 2016 online edition of the "Journal of Epidemiology & Community Health" discusses an Oregon State University study that among other things indicated that staying active after retirement could influence your lifespan through improved economic conditions and social benefits.

NIOSH New Electronic Manual of Analytical Methods

The new manual can be accessed at www.cdc.gov/niosh/nmam. The manual provides guidance on the collection and analysis of samples from various workplace situations. This fifth edition highlights 57 methods with 10 new or modified guidance chapters. Through the electronic process updates can be issued and be available to the user much more rapidly than the old print method.

NIOSH's FACE Program

Fatality Assessment and Control Evaluation (FACE) program has almost 2600 reports of work related fatalities. NIOSH develops recommendations based on the 2600 incidents to provide employers answers as to how to prevent these deaths in the future. If you go to www.cdc.gov/niosh/face you can view the information available. Many resources are referenced at the site to help get employees attention as well as the executive leadership.

OSHA Fact Sheet

OSHA has added some new fact sheets but one in particular addresses issues faced by confined space rescuers. Many organizations must use outside rescue services and this fact sheet provides information on successful implementation of the process. www.osha.gov

CDC Legionella "Tool Kit"

The CDC has prepared guidance on how to prevent conditions from being allowed that could lead to the growth of Legionella in water systems. The tool kit will help building maintenance managers better understand how to recognize and control the conditions. The toolkit can be accessed at http://bit.ly/legionellatoolkit.

Edited by Warren K Brown, CSP, ARM, CSHM

A CASE STUDY:

LEARNING TO DEAL WITH HAZARDOUS WASTE DISPOSAL

Submitted by Chris Gates

NOTE: This article was written by a member of the Arrowhead Chapter of ASSE (in Southern California) in the 1998 – 2000 time frame for the chapter newsletter. The article has been partially redacted to protect the privacy of the author and his employer.

In August 1986, I accepted the job as Safety Director at WXYZ, Inc. This was a "new" position with this 140 employee company. Since WXYZ had no formal Safety Program per se, my first efforts were directed toward the "HOTTEST" mandated safety items such as RIGHT-TO-KNOW, as well as establishing ongoing Employee Safety Training, developing Safe Work Procedures, preparing company Safety Handbooks, etc.

At WXYZ, the Safety Director's position included responsibility for "ENVIRONMENTAL" matters, specifically Hazardous Waste Management and Air Quality *issues.* Prior to my arrival at WXYZ, these duties were spread out among various members of the technical staff. Having limited expertise (and experience) in these matters, I was quite satisfied to let the current Hazardous Waste disposal arrangements (established prior to my arrival) continue. I have always believed and practiced the principal of "DON'T FIX IT IF IT AIN'T BROKE!". This "arrangement" was working quite well until November 1986, when a "PROBLEM" developed with a shipment transported to our usual disposal facility.

Perhaps I should explain a bit about our liquid waste stream. At WXYZ, we generate a liquid waste stream which is produced by the pyrolysis of a rayon material. This liquid waste material is dark amber in color and is comprised of approximately 95% water, with the balance consisting of trace quantities of heavy metals and some hydrocarbons. This material has a ph of >2.

Prior to my coming on board, the Purchasing person had contracted with a transporter to haul our liquid waste material to a specific disposal facility (in northern California), where it was surface impounded. This transporter would then bill WXYZ for the transportation as well as the disposal fees, making a convenient one-invoice transaction. We were disposing of approximately 2000 gallons of liquid waste a month. Neat and painless, right? Until November 1986.

Our "problem" began In mid November 1986, when we sent a "normal" 2000 gallon load of liquid waste out to the

disposal facility, and the next thing we know we receive a call from the carrier telling us that the load has been rejected by the disposal facility due to "PCB CONTAMINATION". Now I have a truck load of "contaminated" waste material in Northern California with the meter running on the truck to the tune of around $75 per hour, and I have no idea what to do next.

Well, after 2 days of frantic phone calls, messenger delivered profile documents, etc., we connect with a disposal facility which agrees to take our waste load (for 3-times the usual disposal charge plus a $1000 one-time priority fee). It was this incident that "activated" my immediate entry into the world of Hazardous Waste Disposal, methods & requirements, vendor selection, transporter qualifications, etc. Thus began my "crash course" in Hazardous Waste Management. I had a lot to learn.

The first thing I had to do was deal with the question and possibility of "contamination". Since we do have PCB capacitors in our plant, I had to construct a scenario to explain the alleged "contamination". A thorough investigation led us to the conclusion that PCB contamination of our liquid waste stream was highly unlikely. What were the other possibilities? Could the Lab at the disposal facility have made a mistake? When I [asked] them about this possibility, they were VERY DEFENSIVE, to say the least. They wouldn't hear of it.

Fortunately, I had saved a sample from the transport load of waste material that was rejected by the disposal facility. Along with samples from our waste storage tank and samples from the process, we sent these off to an independent lab for PCB analysis. This lab work took about 2 weeks to complete on a RUSH request. I learned that this turn-around time is not unusual, as most of the reliable labs have more work than they can handle on a routine basis. The results came back indicating that we had less than 0.01 ppm of PCB in the samples presented for analysis. We contacted the disposal facility (which refused our waste load) with our results, but they were not impressed. We found out (on the side), that this facility had recently installed some very expensive lab equipment & processes, and they were in no way inclined to consider, much less admit that they could make a mistake. Since the disposal facility operator holds all the cards in the disposal game, and can "reject" any waste load for any reason at any time; I had some serious Hazardous Waste disposal "questions" to ponder.

Meanwhile, back at the plant, my waste stream is continuing to accumulate and I have no "alternative" disposal facility lined-up other than the disposal facility that charged us 3-times the expected fee. I could not take the chance of sending a waste load back to the original disposal facility and run the risk of being rejected again, so I began a dialog with the alternate disposal facility (that charged us the 3-times plus fee), in an effort to have our waste stream qualified for surface impoundment. This kind of qualifying does not get done overnight (or in a week's time, for that matter). Actually, it took a month to get this disposal facility to commit to accepting our waste stream at all, and at a cost of 1.5 to 2-times the rate charged by our original disposal facility. As my liquid waste storage tanks began to fill to capacity, I agreed to the terms proposed by this new, alternative waste disposal facility. As I prepared to schedule a shipment to this "new" disposal facility, I was informed that I would have to prepare a request for credit and open an account before they would accept our waste material. This was no problem, as WXYZ has good credit references etc. At least that's what I thought.

WRONG. I was contacted by the customer service rep for this company, and informed that the credit department "person" was insisting that we provide them with a complete Financial Statement before they would accept our waste material,

PERIOD. At this point, I drew the line, and said that I would take our business elsewhere, not really knowing at that point what I was going to do.

At this point in my desperation, I was fortunate enough to get a reference to a local transporter, with an "excellent" recommendation. As I would learn, this transporter and their management, is very knowledgeable and informed on current standards, laws and practices. They took me off the hook by getting my immediate waste accumulation disposed of (at a rate comparable to what I was expecting to pay) and began working on an alternative disposal options. Eventually, this transporter was able to arrange for our liquid waste material to be "treated" locally, at a very respectable cost. Also, by treating the waste stream (as opposed to surface impounding), we greatly decreased our Hazardous Substance Tax liability.

When I reviewed the old arrangement WXYZ had with the transporter hauling the load to northern California, I discovered some interesting accounting. I found that when the transporter billed our company for the "whole" cost, the transporter was charging WXYZ A 10% "3rd party billing fee" on the disposal charge AND a "10% insurance surcharge" on every load he transported. This was the last time I ever used that transporter.

Through all of this, I was forced to take a hard look at the "costs" involved with Hazardous Waste Disposal. Even for a small company like WXYZ, we were spending close to $100,000 a year on hazardous waste disposal. I felt that there must be some waste-handling savings out there somewhere. Since the biggest share of our waste disposal costs are for the disposal of our liquid oven waste stream, I concentrated on this material. As I mentioned, this waste stream is 95% water with some trace heavy metals and trace hydrocarbons. If we could just reduce this volume we could realize some savings.I began to look for some "technology" to reduce the volume of this waste stream. I made several inquiries into fluid elimination systems, which could handle a material like our waste stream. I found several fluid elimination systems on the market. My next obstacle was disposal of the residue sludge material, after the water was removed. We were able to verify the availability of a disposal method which would be safe and cost-effective. And the last hurdle was to assure that an operating system could/would be permitted to operate by the local Air Quality Authority. We have found a system which offers an excellent fluid elimination system with a disposal "savings" potential as well as a very quick pay-back. I have been able to sell our management on the system, and we have placed it on order this month. All in all, this has been a very EDUCATIONAL experience for me. I have gained quite a lot professionally, and have uncovered a great opportunity to save my company a significant amount of money. And that is really the name of the game. If we as Safety Professionals, can come in with something that puts some dollars on the bottom line, be it a waste disposal cost reduction system, an improvement on our Workers Comp dividend, or any thing that impacts the balance sheet, we can really show our organization the true worth of the Safety Function. I'm convinced that my company realizes the possibilities offered by my cost-reduction efforts. After all, the dollars are what our bosses are looking after. So, perhaps if you look around at your Hazardous Waste Management, you will find some opportunities as well. I can assure you it's well worth the time.

KEEP YOUR BALANCE

Submitted by Wendell Wahlstedt

A long time ago, a scientist, Sir Isaac Newton, was trying to establish some "laws" of motion to describe why some objects sit still, others move, and why the moving ones move in the direction that they do.

One of his conclusions was that "a body in motion, tends to remain in motion, continuing in the same direction, unless acted on by an outside force".

This was clearly demonstrated for me in about 1982 by a driver who worked at a truck line where I was the safety director based in Kansas City. The driver was driving a semi pulling a dry van trailer.

The driver felt that he didn't need to waste time tying down a large machine he was transporting in the back of the trailer. After all, as it was inside the trailer, he felt it couldn't get out except through the back door on the trailer while being carried by a fork lift. The driver also reasoned since the large machine weighed about 10,000 pounds, it would take a lot of force to move it.

As usual, that particular shipment was running late so the driver closed the back doors on the trailer & headed on out, driving at a faster rate of speed than he should have been, hoping to make up some time on the run to get a timely delivery.

Things were going OK for the driver as he drove straight as an arrow down the interstate. Things stopped being OK when he took a curve at a rate of speed that was "way too high". If he had been driving around the curve slowly, the accident might never have happened. The driver managed to get the trailer around the curve without turning over his rig, but the large machine in the trailer, not being tied or chained down, didn't make it around the curve. The machine was moving straight ahead, but when the trailer made the turn on the curve, the machine kept right on going straight. To do this, it went right through the aluminum side of the trailer, leaving a large hole in the side of the trailer. The machine kept on going, gathering a lot of dents, and broken parts, as it bounced on the paving on the interstate and finally stopped in the middle of a corn field. Much the worse for wear. Paying off the cargo claim on this also left the corporate checkbook much the worse for wear.

The picture of the large dump truck in this article is a good example of the "center of gravity". In this case, the huge boulder in the back of the truck is off to the right side of the truck bed, and forcing the truck to roll to the right, probably causing the dump truck to roll over on the right side of the vehicle. If the driver of the truck, or the driver of the high loader loading the back of the dump truck, had checked to see the boulder was at the center of the truck bed, it would have been unlikely for the dump truck to roll over.

Although a very heavy load off center on a vehicle can cause a rollover, even a lighter load can tip over a vehicle. Especially if the ground under the vehicle may not be perfectly level, or there is soft ground under the wheels on one side of the vehicle. The picture of the white utility truck tipped on its side demonstrates that even a small truck can roll over or tip over.

Tipovers or rollovers are not restricted to just wheeled trucks. In the picture of the cargo ship being loaded with marine cargo containers it looks like too large a part of the weight was loaded on the dock side of the ship. This might have been caused by too heavy a load of containers being all loaded on one side of the ship, or too many heavy containers being loaded at the top of a stack of containers. If too much of the load you are carrying is on one spot it is easy to have a tipover. Load & balance factors can even cause problems with cargo on airplanes.

CONSTRUCTION SAFETY DESIGN SOLUTION

DESIGN CATEGORY: Roof Access

Fatalities caused by falls from elevation continue to be the leading cause of death for construction workers, accounting for 345 of the 899 construction fatalities recorded in 2014.[1] Falls from ladders make up nearly a third of those deaths.[2] Some of these deaths can be prevented if designers incorporate horizontal grab features to enable workers to more effectively use three-point control when climbing ladders and other structures.

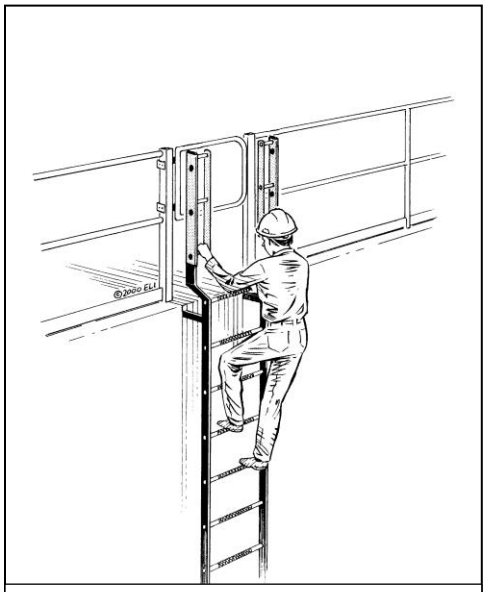
SOLUTIONS

Providing Horizontal Grab Features to Prevent Falls From Ladders

For walk-through fixed ladders, designers should specify that the ladders or ladder equivalent have horizontal round grab bars. If a fall occurs, a vertical rail extension is less effective in stopping the fall due to low sliding friction and lack of a horizontal power grip.[3] However, if a worker is holding rungs on the ladder or equipment or structure horizontal grab bars, sliding is avoided when a fall starts at the top three-foot extension of a fixed ladder during transition due to the high-strength, non-sliding hook grip.

Workers should be trained to hold only horizontal rungs and horizontal grab bars when possible and to use the three-point control climbing technique. See below for a discussion of three-point control versus three-point contact.

Designers of ladder climbing systems should consider human factors when planning the use of effective three-point control. These factors include handgrip strength capacities, the maximum breakaway force if a hand is forcibly pulled away from a support, and the size, shape, orientation, and spacing of handholds/grab bars.



Worker using horizontal grab bars on fixed ladder.

[1] BLS, 2014 Census of Fatal Occupational Injuries,
[2] Falling Off Ladders Can Kill, OSHA Publication 3625 (2015). *See also* CDC, Morbidity and Mortality Weekly Report, Occupational Ladder Fall Injuries – United States 2011 (Apr. 25, 2014) ("Among construction workers, an estimated 81% of fall injuries treated in U.S. emergency departments (EDs) involve a ladder.")
[3] A horizontal power grip refers to holding a rung or horizontal bar, as opposed to holding side rails or vertically placed holds. *See* Barnett and Poczynok (2000). Ladder rung vs. siderail hand grip strategies. Triodyne Safety Brief, 16(4), 1-15. Depending on the rung size, the horizontal power grip can result in a 75-94% larger breakaway force than when gripping a vertical rail of the same shape and size. *See* Young, Woodley, Armstrong, et al. (2012). The effect of handle orientation, size and wearing gloves on the hand/handhold breakaway strength. *Human Factors*, 54(3), 316-333.

While not a design solution, portable ladders can also be fitted with extension grab bars when used to access roofs or an elevated deck surface to provide a three foot extension. These bars provide the horizontal handholds necessary for three-point control to access or exit a structure. In addition, roof hatches should be equipped with walk-through horizontal grab bars for safer access to or from the roof or higher level.

Three-Point Control v. Three-Point Contact

When using ladders or other climbing structures, workers should consider using the ***three-point control*** technique. Three-point control requires a worker to use three limbs for reliable, stable support, including gripping a horizontal support using a horizontal power grip. It is safer for a worker to hold a horizontal support member than a vertical one. Research has shown that holding a horizontal round object or grab bar with a horizontal power grip provides a greater safety margin for preventing a fall than holding onto a vertical side object or rail when a fall starts.[4] The approximate shape should be 1 to 1.5" rounded. Vertical side rails of any shape promote uncontrolled sliding of the hand in a fall.

Climbing a ladder using three-point contact (left) and three-point control (right).

Unlike three-point control, three-point contact requires three points of support without specified body parts with an unspecified ladder or structure. No shapes or sizes exist for adequate support using three points of contact. Three-point control requires using the hands to grab and hold a support so that one hand can reasonably support the climber's body weight or more in an emergency.

BACKGROUND INFORMATION

OSHA regulations

- 29 CFR 1926 Subpart M (1926.500-503 and appendices)
- 29 CFR 1926 Subpart X (1926.1050-1053 and appendices)
- 29 CFR 1926 Subpart L (1926.450-454 and appendices)

[4] *See* Young, Woodley, Armstrong et al. (2009). Hand/handhold coupling: Effect of handle shape, orientation and friction on breakaway strength. *Human Factors*, 51(5), 705-717. *See also* Young, Woodley, Armstrong, et al. (2012). The effect of handle orientation, size and wearing gloves on the hand/handhold breakaway strength. *Human Factors*, 54(3), 316-333.

Other information

- U.S. Army Corps of Engineers, EM 385-1-1 Safety and Health Requirements Manual
- ANSI Z359.2, Minimum Requirements for a Comprehensive Managed Fall Protection Program
- ANSI Z359, fall equipment component standards
- ANSI A10.32, Personal Fall Protection Used in Construction and Demolition Operations
- A10.24 Roofing Safety Requirements for Low-Sloped Roofing, and other A10 equipment component standards
- ANSI A14.3 Fixed Ladders
- ANSI A14.2 Metal Ladders
- ANSI A14.5 Fiberglass Ladders

OTHER CONSIDERATIONS

In addition to incorporating horizontal grab features at elevated work locations, designers can also reduce falls from ladders by specifying fixed ladders or stairways when possible. This would reduce the need for portable ladders when accessing a roof, work platform, or upper level, thereby reducing the chance that a worker may use a defective or improper ladder. See Construction Safety Design Solution #6, Specify Fixed Ladders or Stairs.

References:

- J. Nigel Ellis, Three Point Control, Analysis & Recommendations for Climbing Ladders, Stairs & Step Bolts, Professional Safety Journal, Nov. 2012.
- Justin G. Young, Charles Woodley, Thomas Armstrong, and James A. Ashton-Miller, University of Michigan, Ann Arbor, Hand-Handhold Coupling: Effect of Handle Shape, Orientation, and Friction on Breakaway Strength, Human Factors Vol. 51, No. 5, Nov. 2009.
- Justin G. Young Ph.D thesis, Biomechanics of Hand/Handhold Coupling and Factors Affecting the Capacity to Hang On (2011).
- Kurt Beschorner et al: Biomechanical Response to ladder slipping events: Effects of hand placement, Journal of Biomechanics 48 (2015) 3810-3815.

Through the OSHA Alliance Program's Construction Roundtable, the Roundtable participants developed this product for informational purposes only. It does not necessarily reflect the official views of OSHA or the U.S. Department of Labor.

MENU

UK SLIP RESISTANCE GROUP

SLIPS, TRIPS AND FALLS 2016

THE WAY FORWARD

LONDON, 4TH & 5TH OF OCTOBER 2016

REGISTER

Slips, trips and falls are the biggest cause of unintentional injury in the world today. This 2 day international conference will share the latest research and ideas to help develop solutions to reduce the incidence and impact of this ongoing problem. Slips, trips and falls on the level, stair falls and falls from height will all be addressed and updated with the latest thinking. The Conference Co-Chairs are Steve Thorpe, Chair, United Kingdom Slip Resistance Group and Richard Bowman, Chair, Slips, Trips and Falls Technical Committee, International Ergonomics Association.

THE UK'S INDEPENDENT AUTHORITY ON SLIP RESISTANCE

Falli

WHO SHOULD ATTEND?

THE EVENT WILL BE OF INTEREST TO RISK AND SAFETY MANAGERS, ARCHITECTS, DESIGNERS, SPECIFIERS AND FACILITIES MANAGERS ACROSS A WIDE RANGE OF SECTORS.

- Retail
- Catering
- Food
- Leisure
- Health Clubs
- Hotels
- Manufacturing
- Transport