

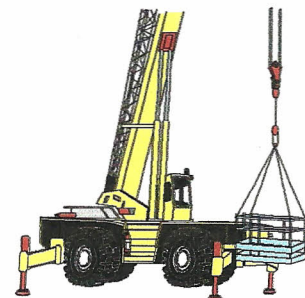
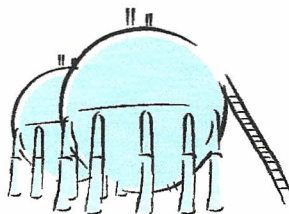
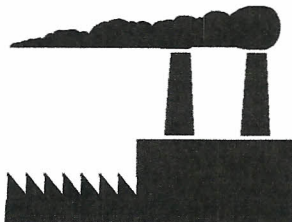
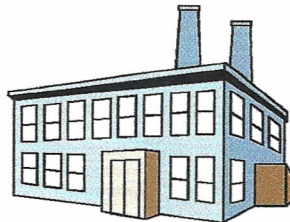
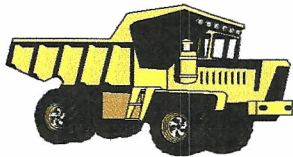
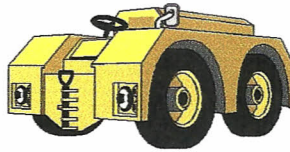
WORLD SAFETY JOURNAL

ESP - Enhanced Safety Principles



ISSN 1015-5589
Vol. XVII No.2, 2008
© copyright 2008, WSO

- **The Value of Occupational Safety and Health**
- **How Can An Organization Enhance It's Safety Culture?**
- **The Cost of Occupational Hand Injuries**
- **Accident Investigation and Frequently Occurring Deficiencies**
- **Skills Required for, and Education Available for, Safety Advisors**



WORLD SAFETY ORGANIZATION (WSO)

Profile

The WSO was founded in 1975 in Manila, The Republic of the Philippines, as a result of a gathering of over 1,000 representatives of safety professionals from all continents at the First World Safety and Accident Prevention Congress. The WSO World Management Center was established in the United States of America in 1987 to be responsible for all WSO activities, the liaison with the United Nations, the co-operation with numerous Safety Councils, professional safety/environmental (and allied areas) organizations, WSO International Chapters/Offices, Member Corporations, companies, groups, societies, etc. The WSO is a not for profit corporation, non-sectarian, non-political movement to **“Make Safety a Way of Life”**.

World Safety Organization Activities

The World Safety Organization:

- ❖ Publishes WSO Newsletters, World Safety Journal - ESP, and WSO Conference Proceedings.
- ❖ Provides a network program linking various areas of professional expertise needed in today's international community.
- ❖ Develops and accredits educational programs essential to national and international safety and establishes centers to support these programs.
- ❖ Annual awards include the World Environmental/Occupational Safety Person Award, WSO James William Award, WSO Educational Award, WSO Concerned Citizen Award, WSO Concerned Safety Professional, WSO Concerned Company/Corporation Award, WSO Concerned Organization Award, Chapter/International Office of the Year Award, WSO Award For Achievement In Scientific Research and Development and International Award.
- ❖ Provides recognition for safety publications, films, videos and other training and media materials that meet the WSO required educational standards.
- ❖ Receives proposals from professional safety groups/societies for review and if applicable, submits them to the United Nations for adoption.
- ❖ Establishes and supports divisions and committees to assist members in maintaining and updating their professional qualifications and expertise.
- ❖ Chapters and International Offices located throughout the world provide contact with local communities, educational and industrial entities.
- ❖ Organizes and provides professional support for international and national groups of experts on all continents who are available to provide expertise and immediate help in times of emergencies.

Membership Benefits

The World Safety Organization:

- ❖ Publishes the “WSO Consultants Directory” as a service to its Members and to the Professional Community. Only WSO Certified Members may be listed.
 - ❖ Collects data on the professional skills, expertise and experience of its Members in the WSO Expertise Bank for a reference when a request is received for professional expertise, skill, experience.
 - ❖ Provides a network system to its Members whereby professional assistance may be requested by an individual, organization, state or country on a personal basis. Members needing assistance may write to the WSO with a specific request and the WSO, through its Membership and other professional resources, will try to link the requester with a person, organization or resource which may be of assistance.
 - ❖ Provides all Members with a Membership Certificate for display on their office wall and with a WSO Membership Identification Card.
 - ❖ Awards a certificate of Honorary Membership to the corporations, companies and other entities paying the WSO Membership and/or WSO certification fees for their employees.
 - ❖ Members receive WSO Newsletters, and other membership publications of the WSO.
 - ❖ Members are entitled to reduced fees at seminars, conferences and classes, given by the WSO. This includes local, regional and international programs. When continuing Educational Units are applicable, an appropriate certificate is issued.
 - ❖ Members who attend conferences, seminars and classes receive a Certificate of Attendance from the WSO. For individuals attending courses sponsored by the WSO, a Certificate of Completion is issued upon completion of each course.
 - ❖ Members receive special hotel rates when attending safety programs, conferences etc., sponsored by the WSO.
-

Journal Editor

Dr. Janis Jansz, F.S.I.A.
Director of the WSO
International Office for Australia,
and Member of the WSO Board
of Directors

WSO Board of Directors:

Dr. Frederick "Fritz" Budde
Dr. Elias M. Choueiri
Ms. Marilyn C. Alston
Mr. Gary D. Cudworth
Mr. Wayne Harris
Mr. Edward E. Hogue
Dr. Glenn E. Hudson
Dr. Janis K. Jansz
Dr. Peter A. Leggat
Mr. Lon S. McDaniel
Mr. Tony D. Ploughe
Dr. James R. Reese
Dr. Donald E. Rhodes
Mr. David H. Roberson
Mr. Eric S. Roberts
Mr. Norman "Skip" Sabourin
Dr. Vlado Z. Senkovich
Mr. Daniel L. Stewart
Mr. The-Sheng Su
Dr. Michael L. Thomas
Mr. Dennis B. Vaughan
Ms. Brenda J. Williams

Disclaimer

Opinions expressed by contributors in articles or reproduced articles are the individual opinions of such contributors or the authors and not necessarily those of the World Safety Organization. Reproduction of articles or abstracts contained in this journal is approved providing the source is acknowledged.

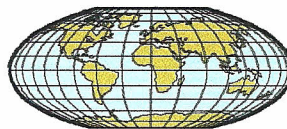
Advertising in the Journal:

¼ Page Advertisement \$35 (USD)
½ Page Advertisement \$65 (USD)
Full page Advertisement \$100 (USD)

Advertising in this Journal benefits your business because people world wide are able to read about what your offer. This benefits our Journal Readers because they learn about your products and/or services.

Table of Contents

	Page
The Value of Occupational Safety and Health by: Mr. Damien Agostinelli	4
How Can An Organization Enhance It's Safety Culture? by: Kana Enomoto	8
The Cost of Occupational Hand Injuries by: Karen Franks	11
Accident Investigation and Frequently Occurring Deficiencies by: Dr. Milos Nedved	13
Skills required for, and Education available for, Safety Advisors by: Dr. Janis Jansz	15
Appendix I	24
Calender of Events	37



ARTICLE SUBMISSION

Articles for inclusion in this journal will be accepted at anytime. However there can be no guarantee that the article will appear in the following journal issue.

All articles shall be written in concise English and typed with a minimum font size of 12 point. Articles should have an abstract of not more than 200 words. Articles shall be submitted as Time New Roman print and on a 3.5" diskette with the article typed in rtf (rich text format) and presented in the form the writer wants published. On a separate page the author should supply the author's name, contact details, professional qualifications and current employment position. This should be submitted with the article.

Writers should include all references and acknowledgments. **Authors are responsible for ensuring that their works do not infringe on any copyright. Failure to do so can result in the writer being accountable for breach of copyright.** The accuracy of the references is the author's responsibility.

References.

Articles should be referenced according to the Publication Manual of the American Psychological Association 2002. For example. Books are referenced as follows.

Author. (Year of publication). *Title of publication*. Place of Publication: Publisher.

Articles are referenced as follows.

Author (Year). Title of article. *Name of Journal*. Volume (Issue), Page numbers of article.

Internet information.

Name of author. (Year of publication). *Name of article*. [on-line]. Available WWW;http:// and the rest of the internet path address. [Access date].

Submissions should be sent to:

Debbie Burgess, World Safety Organization, 106 W Young Avenue, Suite G, PO Box 518

Warrensburg Missouri, 64093, United States of America

Or Emailed to editorialstaff@worldsafety.org

Articles, where ever possible, must be up-to-date and relevant to the Safety Industry.

All articles are Blind Peer Reviewed by at least two referees before being accepted for publication.

WSO International Office's and Directors

Australia:

Dr. Janis Jansz
c/o School of Public Health, Curtin University of Technology, Perth
6845, Western Australia,
Phone: (61 8) 9266 3006 Fax: (61 8) 9266 2358
email: j.jansz@curtin.edu.au

Czech Republic:

Dr. Milos Palecek
c/o Occupational Safety Research Institute
Jenuzalemska 9, 11652 Prague 1, Czech Republic
email: palecek@vubp-praha.cz

Ghana:

Mr. Kofi M. Amponsah
c/o Amponsah Architects, PO Box 93883, Accra, Ghana
email: amponsah@africaexpress.com

Lebanon:

Dr. Elias M. Choueiri
c/o Ministry of Transportation, PO Box 401
Hazmieh, Beirut, Lebanon
email: eliasch@inco.com.lb

Macedonia:

Mr. Milan Petkovski
c/o Macedonian Occupational Safety Association
Makedosnko Zdruzenie Za Zastita Pri Rabota, UI
"Nevena Georgieva Dunja", Br. 13 Lokal 1
1000 Skopje Macedonia
email: kontakt@mzzpr.org.mk www.mzzpr.org.mk

Malaysia:

Dr. James C. Fernando
c/o OSHALOG Fire Safety Consultant Services SDN BHD
Lot 2331, Ground Floor, Jalan Dato Muip, Piasau
Bulatan Commercial Center, 98000 Miri,
Sarawak, East Malaysia
email: asafe@pd.jaring.my

Marianas Islands:

Mr. Marvin C. "Ike" Iseke
c/o Network CNME, Inc., Middle Road, H.K.
Pangelianna Bldg., Chalan Lulan, PO Box 7724 SVRB
Saipan MP 96950

Republic of the Philippines:

Eng. Alfredo A. De La Rosa, Jr.
Unit C., Dominion Bldg 162, B. Gonzales Street
Loyola Heights, 1101 Quezon City, Philippines
email: info@wsophil.org

Poland:

Prof. Danuta Koradecka, MD
c/o Central Institute for Labour Protection
Czerniakowska 16, 00-701 Warsaw, Poland
email: dakor@ciop.pl

Russia:

Prof. Dr. Edouard Petrossiants
c/o Research Center for Socio-Economic Studies of
OS&H, Obolenskiy per., 10 Moscow, Russia 119829 CIS
email: ohrantr@fednews.ru

Singapore:

Dr. M. Jeyaraj
c/o Dynamic Security Pte Ltd, 151 Chin Swee Road
06-15 Manhattan House, Singapore 03116
email: dynamicz@singnet.com.sg

Slovakia:

Ing. Teodor Hatina
c/o Occupational Safety Research & Educational
Institute, Trnavska Cesta 57, 814 35 Bratislava
Slovakia

Taiwan, Province of the Republic of China:

Dr. Shuh Woei Yu
c/o Safety and Health Technology Center / SAHTECH Rm. 413,
Bldg 52, No. 195, Sec 4, Chung Hsing Road
Chutung, Hsinchu 31040 Taiwan ROC 310
email: swyu@sahtech.org

Ukraine:

Dr. Konstantin N. Tkachuk
Labour Safety State Committee of Ukraine, Shevechenko
Blvd 8/26 252005, Kiev - 4 Ukraine

Membership: The World Safety Organization has members that are full time professionals, executives, directors, etc., working in the safety and accident prevention fields and include university professors, private consultants, expert witnesses, researchers, safety managers, directors of training, etc. They are employees of multinational corporations, local industries, private enterprises, governments and educational institutions. Membership in the World Safety Organization is open to all individuals and entities involved in the safety and accident prevention field. Regardless of race, color, creed, ideology, religion, social status, sex or political beliefs.

Membership Categories

- ✓ **Associate Member:** Individuals connected with safety and accident prevention in their work or interest in the safety field. This includes students, interested citizens, etc.
- ✓ **Affiliate Membership:** Safety, hazard, risk, loss and accident prevention practitioners working as full time practitioners in the safety field. Only Affiliate Members are eligible for the WSO Certification and Registration Programs.
- ✓ **Institutional Member:** Organizations, corporations, agencies and other entities directly or indirectly involved in safety activities and other related fields.

Annual Membership fee in United States Dollars is as follows:

Student Membership	\$ 35.00	Associate Membership	\$ 55.00
Affiliate Membership*)	\$ 80.00	Institutional Membership**)	\$185.00
Corporate Membership**)	\$1,000.00		

*) For your countries fee rate, please contact the World Management Center

***)In case of Institution, agency, corporation, etc., please indicate name, title and mailing address of the authorized representative.

APPLICATION FOR WORLD SAFETY ORGANIZATION MEMBERSHIP

Please print or type:

Name (Last, first, middle): _____

Complete Mailing Address (please indicate if this is a Home or Work address): _____

Work Telephone Number: _____ Fax Number: _____

Home Telephone Number: _____ email: _____

For Affiliate Members only

Only FULL TIME PRACTITIONERS in the safety/environmental/accident prevention and allied fields are eligible for the WSO Affiliate Membership. Briefly describe your present employment position, or enclose your CV. _____

Please specify your area of professional expertise. This information will be entered into the WSO "Bank of Professional Skills" which serves as a pool of information when a request for a consultant/information/expertise in a specific area of the profession is requested.

- () Occupational Safety & Health () Fire Safety/Science () Environmental Health & Safety
- () Security/Safety () Safety/Loss Control Science () Public Health/Safety
- () Construction Safety () Transport Safety () Industrial Hygiene
- () Safety Research () Aviation Safety () Ergonomics
- () Product Safety () Risk Management () Petroleum Safety
- () Nuclear Safety () HazMat Management () Other _____

Please forward Application and check/money order to:
WSO, World Management Center, 106 West Young Avenue Suite F,
PO Box 518, Warrensburg, MO, 64093, USA

- current when portable equipment in use.”
3. 828 notices were served for regulation 3.10 “evacuation procedures.”
 4. 824 notices were served for regulation 3.59 “electrical installations at workplaces.”
 5. 823 notices were served for regulation 3.55 “edge protection.”
 6. 769 notices were served for regulation 3.9 “fire precautions.”
 7. 750 notices were served for regulation 3.98 “flashback arresters.”
 8. 712 notices were served for regulation 3.1 “identification of hazards, and assessing and addressing risks at workplaces.”
 9. 542 notices were served for regulation 3.12 “first aid” and;
 10. 492 notices were served for regulation 3.27 “gas cylinders to be secured.”

This list of “high traffic” regulation breaches over 3 years is strong evidence that many workplaces struggle to conform to these specific regulations, either through overlooking the risk of the hazard causing harm or having little understanding of what is expected of them to conform to legal requirements in these areas. The requirement of each regulation is described in the *Occupational Safety and Health Regulations of Western Australia 1996* that was last updated 11 July 2006.

The highest number of notices for occupational safety and health regulation non-compliance served in an individual year by WorkSafe Western Australia Inspectors were as follows.

1. 386 were issued for regulation 3.55 “edge protection” from 1 July 2006 to 30 June 2007.
2. 340 were issued for regulation 3.59 “electrical installations at workplaces” from 1 July 2004 to 30 June 2005.
3. 330 were issued for regulation 3.61 “electrical installations on construction sites” from 1 July 2005 to 30 June 2006.
4. 328 were issued for regulation 3.61 “electrical installations on construction sites” from 1 July 2006 to 30 June 2007.
5. 325 were issued for regulation 3.10 “evacuation procedures” from 1 July 2004 to 30 June 2005.
6. 323 were issued for regulation 3.9 “fire precautions” from 1 July 2005 to 30 June 2006.
7. 305 were issued for regulation 3.1 “identification of hazards and assessing and addressing risks at workplace” from 1 July 2005 to 30 June 2006.
8. 300 were issued for regulation 3.60 “protection against earth leakage current when portable equipment in use” from 1 July 2006 to 30 June 2007.
9. 295 were issued for regulation 3.98 “flashback arresters” from 1 July 2004 to 30

June 2005.

10. 293 were issued for regulation 3.60 “protection against earth leakage current when portable equipment in use” from 1 July 2004 to 30 June 2005.

The top ten “high traffic” regulations receiving non-compliance notices in a single year demonstrate how active occupational safety and health inspections by WorkSafe Western Australia are in Western Australia. Considering that many organizations maintain high standards of occupational safety and health not all inspections result in notices serves as strong evidence that in Western Australia breaches of occupational safety and health legal requirements are likely to be discovered by WorkSafe Western Australian inspectors eventually.

There are two types of notices that these Inspectors issue. These are Improvement Notices, this means the risk of the hazard causing harm must be controlled. There are also Prohibition Notices. The prohibition notices are issued due to non-compliance to the requirements of the Occupational Safety and Health Act or Regulation where the breach is likely to cause serious and imminent injury or deaths. Activities in the workplace that are issued with a prohibition notice must be shut down until the breach of legal requirements has been rectified and hazard control measures implemented are approved as meeting legal requirements by inspectors. Ceasing work activities can have dramatic effects on employee productivity, on business continuity and business profitability.

The highest number prohibition notices issued in the 3 year period between 1 July 04 and 30 June 07 by WorkSafe Western Australia Inspectors were as follows.

1. 259 were issued for non-compliance with regulation 3.55 “edge protection”
2. 132 were issued for non-compliance with regulation 3.131 “driving commercial vehicles”
3. 38 were issued for non-compliance with regulation 3.59 “electrical installations at workplaces”
4. 26 were issued for non-compliance with regulation 3.7 “access to and egress from workplaces”
5. 19 were issued for non-compliance with regulation 3.61 “electrical installations on construction sites”
6. 19 were issued for non-compliance with regulation 3.64 “restrictions on working in the vicinity of overhead power lines”
7. 19 were issued for non-compliance with regulation 3.67 “scaffolds and scaffolding equipment to be in accordance with Standard”
8. 14 were issued non-

compliance with for regulation 3.117 “offence to do class 1, 2 or 3 demolition work unless licensed to do so and work to be done in accordance with conditions of license”

9. 13 were issued for non-compliance with regulation 3.26 “portable ladders”
10. 9 were issued for non-compliance with regulation 3.118 “certain persons to ensure that persons doing class 1, 2 or 3 demolition work are licensed”

Other regulations that received high numbers of notices during this period of time included the following.

- Regulation 3.11 “warning signs”,
- Regulation 3.17 “cleanliness and removal of debris”,
- Regulation 3.131 “driving commercial vehicles”,
- Regulation 3.7 “access to and egress from workplaces”,
- Regulation 3.6 “movement around workplaces”,
- Regulation 3.18 “surfaces and floors”,
- Regulation 3.8 “emergency egress from workplaces”,
- Regulation 3.4 “manual handling”,
- Regulation 3.67 “scaffolds and scaffolding equipment to be in accordance with the Standard”
- Regulation 3.133 “driver fatigue management plan”.

It is important to take into account all of these statistics for their merits. Each category above gives different reasons as to why ‘high traffic’ regulations should be scrutinized carefully in a company’s occupational safety and health management plan. Any regulation mentioned above to have high numbers of notices in a category, should be reviewed with priority in the company’s occupational safety and health policy. This is because the high statistics demonstrates that the regulation is either difficult to conform to and meet the legal requirements, most closely scrutinized, most commonly overlooked or possibly a mixture of the three.

Case Studies:

When inspectors issue improvement or prohibition notices for non-compliance with a regulation they follow a specific report format that includes ‘Reasons’ Notes. These are official notes written by inspectors in their reports. They are recorded on the WorkSafe Western Australia databases. Reading these notes is a great opportunity for businesses, occupational safety and health representatives and professionals to learn exactly how a regulation has been breached to warrant a notice. For confidentiality reasons the names of all parties involved have been changed in the following case studies and are now

fictitious.

Improvement Notices

Improvement notices can only be handed out to workplaces that are in breach of a specific Act or Regulation. Improvement notices have a compliance date that is written by the inspector on the date of issue. This compliance date can be extended by the Commissioner upon request from a workplace but does not necessarily have to be extended.

Case Study 1

On 14 October 2007 Inspector Skinner issued the company 'Kwik-E-Mart' with an improvement notice under Regulation 3.1 "Identification of hazards, assessing and addressing risks at workplaces" stating that:

"My inspection and discussions revealed that you are an employer at this workplace and you have not as far as practicable identified the possible hazards to yourself and your employees that may be caused by your installed lift. Employees could be placed at risk if these hazards are not identified and dealt with."

Whilst this regulation is fairly vague it reveals the discretion inspectors may use when observing hazards in a workplace under this regulation. This particular improvement notice reveals that there were possibly a number of hazards in the workplace associated with the lift and that the employer had not begun to take the issue of assessing and eliminating these hazards seriously.

In WA Employers or companies receiving improvement notices who may wish to contest the notice must do this before the end of the compliance date in writing to the Commissioner. If the request is turned down at this level the employer then has 7 days from the date of the Commissioner's decision to refer the contestation to the Occupational Safety and Health Tribunal.

Prohibition Notices.

Prohibition notices, unlike improvement notices, can be handed out without referring to a specific Act or Regulation. Inspectors will issue these when they observe any activity in a workplace where possible injury is serious and imminent or where a work related death may occur. Prohibition notices are handed out far less often than improvement notices, but the significance of prohibition notices are far greater.

Section 49 of the Occupational Safety and Health Act of Western Australia 1984 states that:

49. Inspectors may issue prohibition notices

(1) Where an inspector is of the opinion that an activity is occurring or may occur at a

workplace which activity involves or will involve a risk of imminent and serious injury to, or imminent and serious harm to the health of, any person, the inspector may issue to a person that is or will be carrying on the activity, or a person that has or may be reasonably presumed to have control over the activity, a prohibition notice prohibiting the carrying on of the activity until an inspector is satisfied that the matters which give or will give rise to the risk are remedied.

(2) An inspector who issues a prohibition notice, other than in respect of an activity as defined in subsection 7, shall remain at the workplace until the employer has been advised of the notice and, where the notice is in respect of an activity that is occurring, the prohibited activity has ceased." (Occupational Safety and Health Act 1984 – as at 10 January 2006).

Case Study 2.

In this case study a prohibition notice was served on the employer for not meeting the legal requirements of regulation 3.55 "edge protection." This prohibition notice documented a concise and straight forward breaches of the regulation: "THE EXTERNAL LANDING / BALCONIES DO NOT HAVE GUARDRAILS."

As is made quite clear the inspector observed a hazard with a risk of serious and imminent injury, and immediately wrote a Prohibition Notice. Any activities in relation to walking on the external balconies and landing would have been ceased effective immediately, until approval was given to resume work using these areas. It is likely that no reference was made at the time as to whether any regulations were breached by the activity, but simply that not having guardrails for these areas posed a serious and imminent risk of harm.

Case Study 3

Prohibition notices under regulation 3.131 "driving commercial vehicles" were the second most frequently issued notices during the three year period studied. On 5 January Inspector Brannigan issued the company "Planet Express" with a prohibition notice stating that: "A responsible person at the workplace has not ensured that a commercial vehicle driver has driven the vehicle in accordance with regulation 3.132. The reason being – the commercial vehicle driver has failed to have 7 consecutive hours of non work time within a 24 hour period".

This particular explanation is; word-for-word one of the most frequently written in prohibition notices issued, and most often applies to the logistics industry.

In Western Australia employers or companies receiving prohibition notices who may wish to contest the notice must do so within 7 days of

being issued one, but must cease activities prohibited by the notice immediately, and may only resume the activity once the approval has been given by inspectors or the notice is withdrawn.

Occupational Safety and Health Economics

The economic advantages of good occupational safety and health are far broader than just the obvious workers compensation savings a company might make. Good occupational safety and health practice improves employee productivity and spreads economic stability from the company to its workers, to the society surrounding the company and in contact with the company.

Economic impact of occupational safety and health on business

The business economics associated with occupational safety and health refers to the financial advantages of applying good occupational safety and health practices in the workplace in order to reduce injury, down time, compensation payouts, subsequent increased insurance premiums, incident investigation costs, poor employee morale, increased employee sick days (both morale and health related) and many more expenses that are both direct and indirect costs of poor occupational safety and health practices.

Leon Gettler's article "Health and Safety tied to stock price" (2007, p. 52) discussed research "undertaken by corporate governance watchdog Regnan and Goldman Sachs JBWer" over the period from November 2004 to October 2007. The findings of this research strongly indicated that companies that invested in good occupational safety and health practices outperformed other companies in stock market share price value with a high standard of occupational health and safety practice paying dividends.

There are many reasons that contribute to business success through having good occupational safety and health practices. These reasons can be divided into two categories of costs for poor occupational safety and health practices. These are direct costs and indirect costs. Direct costs refer to the obvious costs that an employer must immediately pay when poor practice of occupational safety and health appears in the form of workplace incidents.

Direct costs include:

- The investigation and reporting costs that follow workplace incidents.
- The cost of compensating workers that have suffered injury/illness as a result of workplace incident, which the ABS estimated as being \$7.8 billion in the financial year 2005-06.
- Fines received from investigations that reveal negligence and poor OHS after a

workplace incident.

- Loss of awards for “lost time” records.

Indirect costs are far greater than direct costs, although the extent of these costs cannot be accurately measured because of their subjective nature. Indirect costs include the psychological, far reaching, and domino-like effects of injury, illness and serious incidents in the workplace.

- Overtime pay for workers filling vacant positions.
- Poor morale reducing productivity and increasing staff turn-over.
- Training of unskilled staff replacements.
- Unfavorable public relations, resulting in lost business. (Johnstone, 1997).

Economic value to the employee

The value of avoiding workplace illness/injury to an employee is far greater than just the economic losses, which can be substantial. Studies have demonstrated that the value of a working environment to a worker is more than just financial. Franche & Krause (2002, p.1) discuss in the journal of occupational rehabilitation the psychological effects of not working, and the direct correlation between unemployment and depression as well as other mental illnesses. Besides a loss of income through disability, workers also suffer other effects of being unable to work, this includes:

- A decreased perceived ability to perform tasks and activities.
- Increased depressive mood.
- Loss of healthy routine.
- Loss of self worth and social status.
- Loss of fitness and health from unhealthy lifestyles.
- Sleep changes and boredom that can lead to antisocial behavior.

As far as income and financial losses go for workers, workers' compensation does not cover many aspects of finance that are affected when a worker is seriously injured or disabled. These aspects include:

- Expenditure on medical and health costs that are not covered by compensation.
- Costs of treating illnesses that stem from the initial condition(s).
- Decreased income because compensation does not cover the overtime, and bonuses a worker may normally receive.
- Gradually declining compensation if worker does not achieve a return to work program outcome of employment.

Economic Impact of occupational safety and health on society

Society as a whole benefits economically when company products and services are supplied cheaper, due to greater employee work

efficiency and society's flow of expenditure is circulated by the financial security felt by employees. The Australian Bureau of Statistics (ABS, 2006, p. 1) documents “In 2001, around 819,000 Australians aged 15 years and over reported a long-term condition which was work related and caused by an injury received while at work”.

A lot of the effects of these workplace injuries are felt by society through the payment of taxpayer's money. For example:

- Disability pension for permanently disabled workers.
- Costs of public investigations through departments such as WorkSafe Western Australia.
- The expenditure on public health costs that are not covered by workers compensation payments.
- The increased drain on public health services as a result of patients with preventable workplace injury and illness.
- Public costs in court involving occupational safety and health prosecutions and workers compensation claims (Johnstone 1997).

Conclusion:

With a growing emphasis on occupational health and safety in workplaces today, it is becoming better understood, and more important, to employers and company shareholders wishing to avoid the cost and other ramifications of having poor occupational safety and health management systems. Implementing occupational health and safety to any workplace from scratch, is a difficult task to approach and those willing to do so should begin by prioritizing and controlling the most frequent and severe risks of hazards causing harm to employees, other people and property damage.

These occupational safety and health priorities should begin with identifying hazards that present immediate risks of causing harm in each workplace, followed on by scrutinizing the hazards in a workplace that is associated with the most frequently used “high traffic” regulations. From here the company should have a good occupational safety and health management foundations in place, and can gradually assess and eliminate other hazards in the working environment that have the risk of causing harm perhaps with the help of appraisals from occupational safety and health professionals in the industry.

The value of good occupational health and safety practices is significant to a number of different parties. Implementing a good system

of occupational safety and health practice as an employer not only benefits the financial standing of the company, but also contributes greatly to employees and society, both financially and also in other ways that increase living standards. This may be a great motivation to not only take on a challenge that will benefit the overall productivity, efficiency and company profitability, but will also leave a legacy that contributes to taking our society in a better direction.

References

Australian Bureau of Statistics. (2007). *Australian Social Trends, 2007: WORK-RELATED INJURIES*, viewed 21 December 2007, [http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/F2EB91AD0E24E529CA25732F001C9E81/\\$File/41020_Work-related%20injuries_2007.pdf](http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/F2EB91AD0E24E529CA25732F001C9E81/$File/41020_Work-related%20injuries_2007.pdf)

Australian Bureau of Statistics. (2006). *National Health Survey: Injuries, Australia, 2001*, viewed 21 December 2007, <http://www.abs.gov.au/AUSSTATS/abs@.nsf/products/byCatalogue/EF0B82CC1E7DCA2DCA2568A9001393A8?OpenDocument>

Australian Safety and Compensation Council. (2006). *Estimating the number of work-related traumatic injury fatalities in Australia 2003-04*, viewed 6 July 2007, <http://www.asc.gov.au/>

Franché, R. & Krause, N. (2002). ‘Readiness for Return to Work Following Injury or Illness: Conceptualizing the Interpersonal Impact of Health Care, Workplace, and Insurance Factors’. *Journal of Occupational Rehabilitation* 12(4), pp.233-256.

Gettler L. (2007, October 31) ‘Health and safety tied to stock price’. *The West Australian*, p.52.

Johnstone, R. (1997). *Occupational Health and Safety Law and Policy: Text and Materials*, LBC Information Services, NSW.

WorkSafe (2007). *WorkSafe - Work Safety Awards Western Australia*, Perth viewed 18 December 2007, <http://www.worksafe.wa.gov.au/newsite/worksafe/content/initiatives/vswaawrd0004.html>

Acknowledgments:

Thank the particular people at WorkSafe Western Australia, eg Gail McGowan, Leona Glasby, who provided me with the employment opportunity or information and anyone who helped me with writing my article.

How Can An Organization Enhance It's Safety Culture?

by: Kana Enomoto; Safety Advisor, Boom Logistics Limited, Email: Kana_Enomoto@iinet.net.au

Abstract

While the term 'safety culture' is commonly discussed in workplaces, few are able to answer what safety culture actually is or how it should be implemented in the organization. This article looks at "How can an organization enhance its safety culture?" Firstly, the general concept of safety culture is outlined. This is followed by a discussion on the sub-components of safety culture i.e., reporting culture, management's commitment, a just culture, flexibility, learning culture and trust. The structure of safety culture is determined using these components. Finally, the answer to the research question is provided.

Introduction:

While the term 'safety culture' is commonly discussed by managers, few are able to define what safety culture is. Even fewer could actually answer as to how it should be implemented in the organization, so it becomes necessary and beneficial to have a good understanding of what safety culture actually is. This article looks at "How can an organization enhance its safety culture?" The article addresses this question in four parts. Firstly, the general concept of safety culture is outlined. Secondly, the sub-components of safety culture are discussed and thirdly, the structure of safety culture is determined in the section titled "Discussion". The final section reveals the answer to the researched question.

Organizational Culture:

Safety culture is viewed as a subset of organizational culture (Dannatt n.d., 6; Potter 2004, 29). Although some may argue that safety culture is hard to engineer, others support the view that organizational culture can be managed to some degree.

Researchers generally agree that culture is something that is deeply ingrained, that is enduring, and that has to do with beliefs and values. (Dannatt n.d., 2). Reason (1997, 192) suggests the following definition for organizational culture:

Shared values (what is important) and beliefs (how things work) that interact with an organization's structures and control systems to produce behavioral norms (the way we do things around here).

The following definition from Schein (1992) quoted by Dannatt (n.d., 4) seems to emphasize that organizational culture can be engineered and developed in a process of learning:

A pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems.

Safety Culture:

The term "safety culture" was first used by the International Atomic Energy Agency (IAEA) for the initial report following the Chernobyl

nuclear accident (Cox, Jones and Collinson 2006, 1123; Pidgeon 1997, 6). Safety culture is characterized as dynamic, contingent, and unstable, requiring continuous support and monitoring and not a homogeneous, reified, and static "thing" that can be mechanically installed within organizations (Cox, Jones and Collinson 2006, 1125; Pidgeon 1997, 7).

Although there is no universally accepted definition for safety culture, one of the most comprehensive and widely used definitions was suggested by Health and Safety Executive (HSE) quoted by Cox, Jones and Collinson (2006, 1124) as follows:

"The safety culture of an organization is the product of individual and group values, attitudes, perceptions, competencies, and the patterns of the style and proficiency of, an organization's health and safety management."

Reason's Sub-components of Safety Culture:

Reason (1997, 196) categorises safety culture in four critical sub-components: a *reporting culture*, a *just culture*, a *flexible culture* and a *learning culture* (Hopkins 2005, 12; Jeffcott et al. 2006, 1106). The following section explores these four subcomponents.

Reporting Culture

Above all else, a safety culture is a reporting culture in which people are prepared to report accidents and near misses (Hopkins 2005, 12; Reason 1997, 195; Ruchlin et al. 2004, 53). A reporting culture depends on installing an atmosphere among frontline staff that encourages the reporting of all accidents/incidents (Jeffcott et al. 2006, 1106). An effective reporting culture relies, in turn, on how the organization handles blame and punishment as a result of reports (Burns 2005, 92; Reason 1997, 195).

A Just Culture

To support a reporting culture, an organization must have a just culture, in which there is an agreed set of principles for clarifying the line between acceptable and unacceptable actions (Burns 2005, 92). A "no-blame" culture is neither feasible nor desirable (Reason 1997, 195). A blanket amnesty on all unsafe acts would lose credibility with the organization and would be seen to oppose natural justice (Burns 2005, 92; Reason 1997, 195).

Flexible Culture

A flexible culture refers to an organization's ability to shift from a "conventional hierarchical mode to a flatter professional structure, where control passes to task experts on the spot" during crisis periods (Reason 1997, 196; Jeffcott et al. 2006). In other words, overcoming an emergency depends on "respect for the skills, experience and abilities of the workforce and, most particularly, the first-line supervisors" (Reason 1997, 196).

Learning Culture

A learning culture is characterized by "the willingness and competence to draw the right conclusions from the organization's safety information system together with the will to implement major reforms when their need is indicated (Reason 1997, 196). Reports are effective only if an organization learns from them and takes the appropriate actions to reduce risk (Hopkins 2005, 13; Jeffcott et al. 2006, 1106).

Jeffcott's Core Components of Safety Culture:

Jeffcott et al. (2006) revealed a negative safety culture among the U.K railway industry. As a result of their research, the following three core constructs were recognized: flexibility, commitment, and learning.

Flexibility

The flexibility theme here reinforces Reason's (1997) "flexible culture". It emphasises the need to acknowledge, value, and utilize frontline knowledge and experience, particularly in times of abnormal operations and crises, as a crucial part of making the most appropriate decisions with regard to protection and safety" (Jeffcott et al. 2006, 1114). However, prevailing audit-based risk management limits flexibility relying only upon the safety information system that is simply amassing administratively defined hazards and which may even foster additional and unanticipated hazards (Jeffcott et al. 2006, 1114-1115). Jeffcott et al. (2006, 1115) also argues the negative effect of centralization and proceduralization. These issues have discouraged the frontline from using their own ingenuity. In other words, extensive centralisation and proceduralization prevent organizations from developing necessary

competence and confidence. This was an extract of a comment by a manager in the Railway Regulatory Body while conducting the qualitative research: "The rule book says I must do X therefore I will do X, I will not do this better or worse...I will do exactly what this says..." (Jeffcott et al. 2006, 1115)

Commitment

The commitment theme emphasizes the importance of visibility (to employees) of management's commitment (Jeffcott et al. 2006, 1107). This means that management needs to maintain the interaction with frontline staff so that safety and safe operations are well balanced against the operational and commercial issues. Supervisors also need to demonstrate their commitment to safety in the workforce directly, by providing rapid and useful feedback or by being seen to take immediate action in order to maintain incident reporting (Burns, Mearns and McGeorge 2006, 1140, 1148; Reason 1997, 200). However, Jeffcott et al. (2006, 1117) perceived that the frontline in the UK railway industry was deficient in receiving support from their line managers. The burgeoning proceduralization made line managers focus on whether or not their subordinates filled out a pile of paperwork rather than actually observed workplace safety. More recently line managers appear to have limited desire for responsibility and interpersonal communication due to the fact that they are likely to be held accountable if their decisions are found to go "over and above the accepted organizational behavioral norms". The following was a comment from frontline staff in the UK railway industry:

"All the managers on the station day-to-day are never there when you need them. I swear to God there's bloody foxholes all over [name removed] station. They scarper at the first sign of trouble: and then the best bit is they come back and beat you up for handling the situation the wrong way...It's priceless, no support and then they slap you on the wrist. (Jeffcott et al. 2006, 1117)."

Learning

The learning theme encompasses rigorous gathering, analysis, and dissemination of all information in order to reflect safe practice (Jeffcott et al. 2006, 1107). Blame is a major barrier to learning in similar fashion to Reason's (1997) just culture, Jeffcott et al. (2006, 1117) insists that an organization needs to clarify the boundaries between culpable practices and events and non-culpable practice

and errors such that errors are perceived as learning opportunities. However, in research by Jeffcott et al. (2006, 1117), it was reported that a culture of blame existed in the UK railway industry that create an atmosphere where frontline staff were reluctant to report adverse events directly to management. The computer reporting system also appeared to exacerbate the communication between the frontline and management. Frontline staff referring to input an incident report into the system so as to avoid going directly to their managers (Jeffcott et al. 2006, 1118). Unfortunately, the quality of safety information may be less favourable to learning

Trust and Distrust

On closer examination of Reason's "notion of safety culture", the sub-components are based on an underlying element of trust (Burns 2005, 92). In regard to engineering a reporting culture, Reason (1997, 198) suggests that in order for employees to report their errors and near misses, they must trust managers to treat them fairly (Burns 2005, 92).

Burns, Mearns and McGeorge (2006, 1141) demonstrate several definitions of trust and distrust:

Mayer et al. (1995) conceptualized high trust, as determined by perceptions of ability, benevolence, and integrity, as indicative of low distrust... In Sitkin and Roth's (1993) model, trust rests on an individual's expectations of others' ability to complete tasks reliably, whereas distrust is generated when an individual's values and beliefs are not compatible with those of the organizations or other individuals in question. Accordingly, Lewicki et al. (1998) defined trust in terms of confident positive expectations regarding another's conduct, and distrust in terms of confident negative expectations regarding another's conduct.

Trust is required in order to integrate the three sub-components - a 'reporting culture', a 'just culture' and 'management's commitment' - to an effective safety culture. In a case study conducted for the UK nuclear industry by Cox, Jones and Collinson's (2006, 1130-1131), mutual trust was identified between management and employees as being synonymous with the success of the behavioral safety program. Management's commitment in endeavouring to provide rapid and useful feedback was the key factor in motivating employees to willingly write reports concerning behavioral observations (i.e. a reporting

culture). Employees were also confident about the managers' abilities to distinguish between culpable and non-culpable practices (i.e. just culture). In other words, employees behavior should be fairly evaluated and behavioral safety reports not used as a "weapon" against employees.

Cox, Jones and Collinson (2006, 1130) also highlight trust as an important component of a learning culture. Their case study found a high degree of trust between management and employees that prompted open communication which supported individual and organizational learning in a positive way.

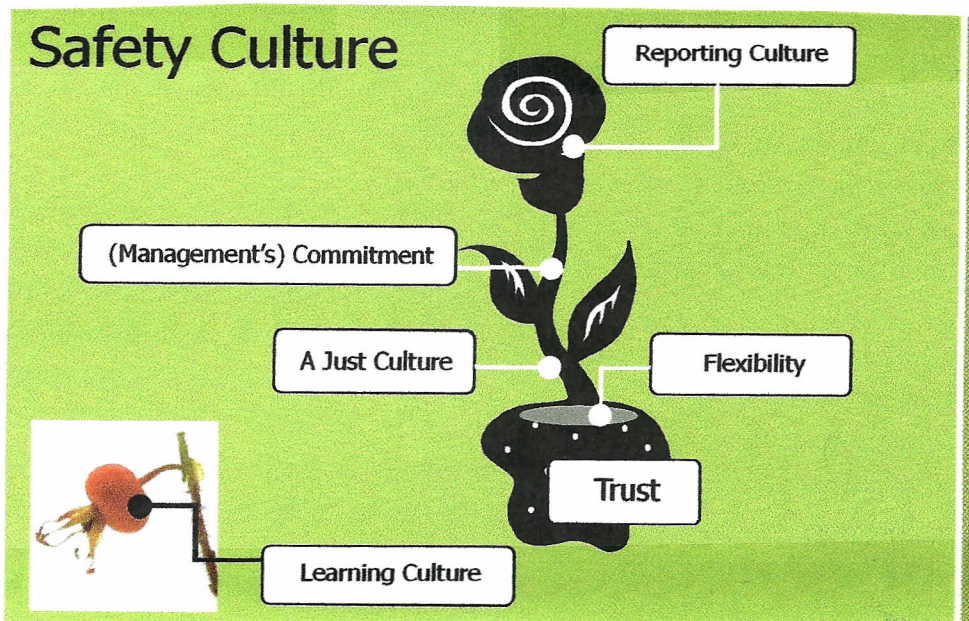
In regard to flexibility in their research Jeffcott et al. (2006, 1115) identified that the imposed centralization and proceduralization fostered and created distrust while admitting that "rule-based trust" can to some extent exist in a positive way because proceduralization may reduce or remove ambiguity in decision making with the consequence that "everybody knows what everybody *should be doing*".

Discussion – Structure of Safety Culture:

By integrating all the components discussed above, it could be concluded that a safety culture is a reporting culture based on an underlying element of trust. The effectiveness of a reporting culture depends upon visible management's commitment (i.e. visibly providing rapid and useful feedback and action as a result of a report) based on judgement of culpable or non-culpable practices in a fair and competent manner (i.e. a just culture). Flexibility can be nurtured if the organization has a positive trust relationship between management and employees. A learning culture can be developed following an effective reporting culture.

Such a structure can be depicted by means of an analogy with a rose. When a rose is thought of, this is generally considered to mean a "rose bloom" In a similar manner, if the safety culture in an organization is focused, this is generally understood to mean the reporting culture. However, a flower does not bloom without support from the stem. The quality of the bloom and the stem is affected by the quality of the roots. Similarly, a reporting culture cannot be cultivated without a just culture and management's commitment. Additionally, trust is a fundamental requirement when integrating a just culture with management's commitment. (Refer to Figure 1 below)

Figure 1: Structure of Safety Culture*



Trust and Management's Commitment & a Just Culture

Cox, Jones and Collison (2006, 1126) articulated that relationships of trust evolve slowly starting with relatively low-value benefits and escalating to high-value benefits as the parties demonstrate their trustworthiness. Learning from the case studies discussed above, trust can be engineered where employees have a confident and positive expectation from management that provides rapid and useful feedback and actions as a result of reporting (i.e. management's commitment). It should be noted that competency and benevolence need to be recognized in order to build trust between stakeholders (Cox, Jones and Collinson 2006, 1131). In other words, managers need to be competent enough to distinguish what are acceptable and what are unacceptable practices (i.e. a just culture).

Trust and Learning Culture

A learning culture may also be depicted in similar fashion to a rose-hip, the fruit of the rose. Reports become fruitful only if the organization learns from them and takes appropriate action to reduce risk (Hopkins 2005, 13; Jeffcott et al. 2006, 1106). As discussed in the previous section "Trust and Distrust", the evidence supports the management and employees in the UK nuclear industry as having possessed a relationship of trust that promoted open communication and a reporting culture. These proved to be the key aspects in developing their learning culture.

Trust and Flexibility

In regard to flexibility, Jeffcott et al. (2006, 1115) suggests that the degree of flexibility has

been diminishing within safety-critical industries as a result of centralization and proceduralization. Moreover, Jeffcott et al. (2006, 1115) insists that an over reliance upon formal procedures and audits of performance serves only to foster and create distrust.

Unfortunately however, in many circumstances, proceduralization is no longer a matter of choice in the modern society in many circumstances. For certain types of tasks such as inspection, repair, maintenance, alteration or cleaning of plant, the Regulations command that procedures must be established, implemented and monitored by employers (Occupational Safety and Health Regulations 1996 (WA) 4.37(1)(b); 4.37A(5) & (6)). If the 'threat of prosecution' (Jeffcott et al. 2006, 1115) is foremost in the mind's of people, they will not take any risk that deviates from procedures.

Answer to the Researched Question

Suppose there was an organization with a negative safety culture. How can this organization enhance its safety culture? From the discussion above, there seems to be two initial sub-components to focus on: (1) management's commitment and (2) a just culture (i.e. culpable or non-culpable).

Management's commitment

There are two key areas where managers can take on commitment:

1. Do not neglect "low-value" issues
2. Provide rapid and useful feedback and action

As outlined above, relationships of trust are the foundation of a safety culture. The first step in raising trustworthiness within an organization

is to provide rapid and useful feedback matched with actions – that are visible to employees - as a result of reporting. If the management is perceived to be diligent in dealing with 'low-value' issues, this is where relationships of trust start. In other words, if management neglects to deal with 'low-value' issues, employees will judge management as lacking 'ability to complete tasks reliably' (i.e. the extract from a definition of trust (Burns, Mearns and McGeorge 2006, 1141). Consequently, essential trust will not be developed enough to deal with the 'high-value' issues between management and employees. As a result, employees stop reporting which leads to the organization losing the opportunity to learn from those reports. These types of sequences subsequently contribute to the development of a negative safety culture.

A just culture – culpable or non-culpable

There are two recommendations in building a just culture:

1. Learn from the frontline
2. Communicate with them

Employees need to be confident in their managers' abilities to distinguish between acceptable practices and unacceptable practices. This indicates that management requires a good understanding of frontline operations and practice. If managers are incapable of identifying the underlying issues behind operations, employees will not trust their ability to treat them fairly.

Consequently, just as the rose blossoms, and when all of the above components are present, a reporting culture can be achieved. With open communication, management and employees can elaborate on the methods of gathering,

analyzing and disseminating reports. This action creates a learning culture that will achieve a complete safety culture.

Conclusion:

In this article, safety culture was discussed and an answer to the research question 'how can an organization enhance its safety culture?' provided.

Sometimes top managers can be right "off course" with regard to safety culture. It often occurs that when some issues are identified as requiring 'management's commitment,' that top management believe that the responsible person should be the middle manager and so they tend to blame the middle manager without providing effective assistance. Top management's responsibility must be to visibly demonstrate their commitment and meet the expectation of middle management and employees.

While assessing suggestions or recommendation from subordinates with yes/no answers can provide 'rapid' feedback, it cannot be technically classified as 'useful' feedback or action. Top management needs to be responsible for finding a solution. Consistently providing a yes/no answer with no assistance

given to finding a real solution erodes the likelihood of a relationship of trust between top management, middle management and the employees being established. Consequently a safety culture will not be developed when top management is generally always keen to develop it.

In concluding, top managers by virtue of their position are deemed to have more ability to 'problem solve' and so should be actively engaged in the culture of safety. Such an engagement should be a part of the reason why top managers are in general given more power and therefore paid more than others in the same organization.

References

- Burns, C. 2005. Dual attitudes about trust in safety culture. *The Business Review* 4 (2): 92-98.
- Burns, C., Mearns, K. and McGeorge, P. 2006. Explicit and implicit trust within safety culture. *Risk Analysis* 26 (5): 1139-1150.
- Cox, S., Jones, B. and Collinson, D. 2006. Trust relations in high-reliability organizations. *Risk Analysis* 26 (5): 1123-1138.

Donnatt, R. n.d. Module 5: The influence of culture In *Course material for risk and safety management 660*. Perth: Graduate School of Business, Curtin University of Technology.

Hopkins, A. 2005. *Safety, culture and risk*. Sydney. CCH Australia Limited.

Jeffcott, S., Pidgeon, N., Weyman, A. and Walls, J. 2006. Risk, trust, and safety culture in U.K. train operating companies. *Risk Analysis* 26 (5): 1105-1121.

Occupational Safety and Health Regulations 1996 (WA)

Pidgeon, N. 1997. The limites to Safety? Culture, politics, learning and Man-Made Disasters. *Journal of Contingencies and Crisis Management* 5 (1): 1-14.

Potter, D. 2004. Chapter 2: Literature review In *Organizational safety culture evaluation: The use of external standards ate one electric distribution company*. ABN/INFORM Global. <http://proquest.umi.com/dbgw.lis.curtin.edu.au/pqdweb?index=7&did=765816961&SrchMode=1&sid=4&Fmt=2&VInst=P&VName=P&VType=PQD&RQT=309&VName=P&QD&TS=1187530355&clientId=22212>

The Cost of Occupational Hand Injuries

by: Karen Franks; Safety Coordinator and Technical Officer – Geology Department, Kalgoorlie Consolidated Gold Mine.
Email: kfranks@kalgold.com.au

Abstract

Hand injuries commonly occur in an occupational setting and there are many costs associated with such injuries. This review will discuss the psychological cost of trauma to patients, including traumatic stress disorders, as well as the financial impact on the injured, their families and employers, as well as barriers to returning to work.

Introduction:

Hand injuries are one of the most common types of injury to occur in the occupational setting, (Sorock et al. 2002), and the nature of these injuries ranges from cuts, strains and sprains to acute trauma, including hydraulic injection, skin degloving and amputations, (Sorock et al. 2002; Chan and Spencer, 2004), depending on the occupation and events surrounding the injury. The degree of damage inflicted during injury can be deceptive, as some mechanisms of injury, such as nerve damage, (Sorock et al. 2002), or hydraulic injection, (Bekler et al. 2007), may have very small visual wounds, but the internal damage can be significantly worse than initially expected and require surgical intervention, (Bekler et al. 2007). Also the cultural importance placed on hands in society, for communication and environmental reaction, can result in severe psychological trauma when acute hand injuries occur, including anxiety, stress and flashbacks to the injury event,

(Grunert and Maksud-Sagrillo, 1998). This review discusses the psychological, social, financial and occupational costs of occupational hand injuries on the injured, their family and friends and the companies.

Method:

Articles used for the review were sourced from internet based electronic databases, including PubMed, Ovid, Science Direct, Sage Publishing, electronic Medical Journal Australia, and the Curtin University library databases. Using the keywords 'hand injury', 'occupational hand injury', 'hand trauma', 'amputation', 'psychological', 'financial', 'social', 'emotional', 'economic', 'rehabilitation', 'return to work', without restrictions on language, but restricting the date to after 1987, a variety of reports was found. Once the relevant articles were identified, review of the reference lists lead to further relevant articles. These articles form the basis of the information used in this

review.

Results and Discussion:

The effects of an occupational injury differ depending on the type of injury, the severity and the psychological state of the patient. The trauma of hand injuries can have additional effects, as in many cases with hand injuries; the injured is usually conscious at the time of injury and watches the injury occur, (Grunert and Maksud-Sagrillo, 1998). This can result in the occurrence of post traumatic stress disorder, including nightmares, memory flash backs to the event of injury, (Grunert and Maksud-Sagrillo, 1998), leading to further anxiety, stress and psychological trauma.

In a discussion about Post Traumatic Stress Disorder (PTSD), on August 18th 2008, with P.B, a work colleague who suffered a severe occupational injury 18 years ago, he explained how he is still affected by his injury, including suffering from flash backs and nightmares of re-injuring himself, mood swings and bouts of

clinical depression. He discussed the effects that his injury had on himself, his family, including his parents and the subsequent disintegration of his marriage, as well as the changes to his personality that he has noticed

since the injury, in particular, social insecurity in the company of strangers and having become more introverted since his injury. The impact of trauma on social identity also discussed in

Paton et al. (1998). Table 1 lists the psychosocial nursing diagnoses relating to hand injuries, as shown in Grunert and Maksud-Sagrillo, (1998).

Psychosocial Nursing Diagnoses Related to Hand Injuries

1. Impaired adjustment related to temporary or permanent disability and/or disfigurement.
2. Anxiety related to traumatic injury, surgery, related care, and anticipated outcome.
3. Potential for ineffective individual coping related to situational crisis (that is, traumatic injury, surgery, hospitalization, and rehabilitation).
4. Potential for ineffective family coping related to inability to use adaptive behaviors in response to a traumatic situation.
5. Potential for denial related to fear or anxiety of traumatic injury.
6. Altered family processes related to situational crisis (that is, patient's time away from home, work, and normal activities).
7. Anticipatory grieving related to real or perceived loss from hand injury.
8. Potential for impaired home management related to hand disability and/or inadequate support systems.
9. Knowledge deficit related to surgical procedure, postoperative expectations, and rehabilitative outcomes.
10. Potential for parental role conflict related to crisis situation (that is, parent's injury, surgery, and hospitalization).
11. Personal identity disturbance related to change in body image following hand injury.
12. Posttrauma response related to accidental injury.
13. Potential for self-care deficit related to limitations/impairments of injured hand.
14. Potential for sexual dysfunction related to altered body structure/deformity.
15. Sleep pattern disturbance related to flashbacks/intrusive imageries.
16. Potential for impaired social interaction related to perceived disability/disfigurement.

Table 1. Psychosocial Nursing Diagnoses Related to Hand Injuries. Source: Grunert and Maksud-Sagrillo. 1998, p.165

Having a traumatic hand injury also has an effect on the family life of the injured person. This can manifest in several ways, such as the financial hardship of supporting a family on worker's compensation (WC) during rehabilitation, and the person requiring assistance from family to perform simple tasks, (Chan and Spencer, 2004) or in marital breakdown and turning to alcohol and drugs as mechanisms for coping with the psychological trauma, as discussed with P. B.

In the *Hand Injury Presentation* video, produced in 2007 at Kalgoorlie Consolidated Gold Mine (KCGM), two people who had suffered traumatic occupational hand injuries discussed the effects their injury had on themselves, their family and work colleagues, social repercussions of their injuries and the financial implications of making ends meet while not earning a full wage, (*Hand Injury Presentation*, 2007). (In the *Hand Injury Presentation* video, D. B suffered a multiple finger crush injury that resulted in a *Pseudomonas* sp. infection and resultant finger amputation and K. B suffered the amputation of a finger tip).

The additional stresses and anxiety that financial strain can place onto a relationship can adversely affect the psychosocial adjustment of the patient to the injury and their situation, (Grunert and Maksud-Sagrillo, 1998). Compensation may not entirely cover payment of hospital bills, (*Hand Injury*

Presentation, 2007; Chan and Spencer, 2004) and the loss of regular work hours also impacts financially, as discussed in *Hand Injury Presentation*, (2007). In the video, both of the injured employees discussed the fact that compensation hasn't made up for their injuries.

Additionally, the psychological effects of the person having to ask for assistance to do commonplace task after injury can be daunting. D. B commented on feeling embarrassed to have to ask his work colleagues to help him mow his lawn, while he was recovering from his injury, (*Hand Injury Presentation*, 2007), as the pain generated from trying to use the mower himself was excessive. For formerly self sufficient people, asking for assistance can be a very daunting task. This is similar to a case study reported by Chan and Spencer (2004), where Alice learned to accept that, "There are things that I simply can't do and I need to have others do it." Also in Chan and Spencer, (2007) was the case study of Butch, who valued his independence to the point where if he was unable to complete a task on his own, he would seek to eliminate the task.

Returning to work, which often means returning to the location of the injury, can be traumatic, particularly due to the psychological factors and concept of no longer being the fully functional person prior to the injury occurring, (Grunert and Maksud-Sagrillo, 1998; Chan and Spencer, 2004) and the potential for feeling vulnerable, and at risk, in the location where

their injury occurred, (Grunert and Maksud-Sagrillo, 1998). The fear of a recurrence of the injury or the situation surrounding the injury, and of feeling that 'the world is no longer a safe place', (Grunert and Maksud-Sagrillo, 1998) can also be a hurdle in the patient's desire to return to work, as well as concerns about being able to fulfil the requirements of their role, (*Hand Injury Presentation*, 2007; Grunert and Maksud-Sagrillo, 1998).

There are also financial implications for the employer of the injured worker, which include medical costs, possible legal costs and the impact on the morale of the associated workforce. O'Sullivan and Colville (1993), discussed that hospital costs for the treatment of hand injuries in the United States was approximately US\$22,000, per hand injury in 1987. Depending on the severity of the injury, hospital and rehabilitation costs can range from thousands to hundreds of thousands of dollars. The associated costs of occupational injuries include having personnel available to cover the shifts of the injured employee, as well as the costs of the injury itself, and rehabilitation costs, (*Hand Injury Presentation*, 2007). The comments that were made after K. B's injury, from the *Hand Injury Presentation* video (2007), were that if the 'oldest apprentice on site' could be involved in a sizable incident, then the potential was there for it to happen to anyone.

Conclusion:

The effects of a hand injury are more long term than just the physical recovery and rehabilitation from the injury. There are emotional and psychological issues that can affect the injured person long after the incident, including the potential for PTSD, and reluctance to return to work, as well as the financial impact upon the injured person and their family. It is imperative that psychological evaluation and rehabilitation be provided to patients to assist them in adjusting to life after the injury, (Grunert and Maksud-Sagrillo, 1998). Having systems in place, whether physical barriers such as machine guarding, as well as education programs, such as the KCGM *Hand Injury Presentation*, are important in trying to prevent such injuries from occurring and re-occurring and impacting

on the lives of employees and employers.

References:

- Bekler, H., Gokce, A., Beyzadeoglu, T. and Parmaksizoglu, F. (2007). The Surgical Treatment and Outcomes of High-Pressure Injection Injuries of the Hand. *Journal of Hand Surgery*. 32: 394-399.
- Chan, J., and Spencer, J. (2004). Adaptation to hand Injury: An Evolving Experience. *American Journal of Occupational Therapy*. 58:128-139.
- Grunert, B. K., and Maksud-Sagrillo, D. P. (1998). Psychological Adjustment to Hand Injuries: Nursing Management. *Plastic Surgical Nursing*, 18: 163-167.
- Hand Injury Presentation*. (2007). video

recording. Kalgoorlie Consolidated Gold Mine. Kalgoorlie.

O'Sullivan, M. E., and Colville, J. (1993). The Economic Impact of Hand Injuries. *Journal of Hand Surgery*. 18B: 395-398.

Paton, D., Smith, L. M. and Stephens, C. (1998). Work-related psychological trauma: A social psychological and organizational approach to understanding response and recovery. *The Australasian Journal of Disaster and Trauma Studies*. 1: 3796 words.

Sorock, G. S., Lombardi, D. A., Hauser, R.B., Eisen, E. A., Herrick, R. F. and Mittleman, M. A. (2002). Acute Traumatic Occupational Hand Injuries: Type, Location, and Severity. *Journal of Occupational and Environmental Medicine* 44: 345-351.

Accident Investigation and Frequently Occurring Deficiencies

by: Dr. Milos Nedved; M. Sc. Eng., Ph.D. Adj. Assoc. Professor, Edith Cowan University, Perth, Western Australia; Assistant Director, World Safety Organization's International Office for Australia; Fellow, Safety Institute of Australia

Abstract

Accident reports for a five year period have been examined and analyzed in an industrial organization with around 5000 employees. The analysis has identified some areas in which the existing system for accident investigation has not been utilized to its full potential. Strategies for improvement of the accident investigation process are proposed. Conclusions from the analysis of the above accidents are drawn and several frequently occurring categories of contributory factors which have led to occupational accidents are identified. Some relevant strategies for improvement are proposed in order to reduce accident frequency and accident related costs.

Introduction:

Accident reports for a five year period were examined and analyzed in an industrial organization with around 5000 employees. The analysis identified some areas in which the existing system for accident investigation has not been utilized to its full potential. Strategies for improvement of the accident investigation process are proposed. These are described in this article.

Deficiencies identified in the accident investigation process, and suggestions for improvement:

In some of the accident investigation reports it has been clearly visible that not all elements of the company's existing accident investigation system have been utilized to their full potential. Frequently occurring deficiencies and omissions in the application of the system (even whilst the forms advise and guide the investigators to carry out certain steps and to consider relevant factors) were listed according to their frequency of occurrence (highest to lowest):

- Detailed description of the incident was missing or only insufficient / inadequate description has been formulated.
- Immediate accident causes and root causes

confused and interchanged.

- Root causes not considered and /or not defined.
- Remedial action measures to prevent the recurrence of similar incidents not devised.
- Failure to appreciate that this is a significant incident that had the potential to cause serious harm to people or equipment.
- Actual and/or potential risk rating not defined.
- Potential risk underestimated.
- Incident investigation has not been carried out, when incident with a serious potential has been mistakenly considered to be only a trivial one.
- Immediate accident causes wrongly defined.
- Actual risk underestimated.

The deficiencies in the accident investigation process described above can be removed if all personnel involved in the accident investigation process get an opportunity to develop their understanding of the accident phenomenon (the mechanisms by which accidents take place, and the wider range of contributory factors leading to occupational accidents) as well as to further develop their skills in accident investigations.

A person trained in classical accident

investigation can usually identify only a few accident causes (contributory factors). With their subsequent removal, the recurrence of the accident in question will be prevented. A person with a comprehensive up-to-date training in systematic accident investigation can identify the widest range of contributory factors with particular emphasis on the fundamental root causes (= preconditions). With their subsequent removal, not only the recurrence of the accident in question can be prevented, also the future occurrence of similar and dissimilar accidents will be prevented.

Worldwide experiences of the last couple of decades documents beyond any doubt that the resources spent in accident investigation training is one of the best long term investments; savings resulting from reduced accident costs are usually one order of magnitude greater than the costs of accident investigating training and improve accident prevention measures.

Accident contributory factors

The most frequently occurring contributory factors (accident causes) identified in the above accidents reports are listed according to their frequency of occurrence and are described from highest to lowest causes.

1. *Inattention: neglect of obvious safety practices.*

Possible underlying cause might be the lack of motivation or inadequate comprehension of occupational tasks.

Management remedial strategies should, in addition to stronger enforcement of safety rules and measures, include employee training. To minimize the potential for inadequate comprehension, employee selection and placement strategy is the best – fitting a person to the job as well as fitting a job to the person (Pheasant, 1994).

2. *Failure to follow prescribed procedures.*

On some occasions, procedures appeared unclear while on other occasions communication problems resulted in the situations where the managers had no feedback as to whether the written procedures had been understood and complied with.

A possible underlying cause might have been that the need to follow prescribed procedures has not been properly emphasized. Remedial measures should include better enforcement of existing procedures and supervisor safety training. Further underlying causes might include low morale and poor attitude of the person, as well as miss-assignment. Improvements in the areas of employee selection and placement and employee training would usually overcome these problems.

3. *Lack of maintenance.*

Planned preventive maintenance programs is the best solution.

4. *Unsafe or defective equipment and facilities.*

Possible underlying causes might be the fact that the equipment and facilities are not recognized as unsafe or are of a poor design. Management remedial strategies should include supervisor safety training, improved employee training and increase in safety awareness.

5. *Lack of training,* in particular in the area of manual handling.

6. *Lack of protective equipment.*

Underlying causes might be that the need is not recognized or there is only an inadequate availability of Personal Protective Equipment. Better planning by supervisors and more specific and explicit operational procedures would be among the successful remedial measures.

7. *Misconduct: deliberate failure to use protective clothing.*

Possible underlying causes include low morale and poor attitude, also in some cases, miss-assignment. Remedial strategies should include supervisory training, improvements in employee selection and placement and increase

in employee safety awareness.

8. *Lack of proper tools, equipment and facilities.*

Possible underlying causes might be that the need for proper tools, equipment and facilities is not recognized, or there is an inadequate supply. Management remedial strategies should include better planning, improved layout and design and supervisor safety training.

9. *Inadequate warning of potential hazards.*

Remedial measures include frequent feedback sessions between the supervisors and their staff members, as well as better planning by supervisors, in particular making the best possible use of Job Safety Analysis and pre work commencement safety briefings.

10. *Improvising unsafe procedures.*

Possible underlying cause could be inadequate training in occupational safety. Management remedial strategies should address the deficiencies in the enforcement of proper procedures or in employee training; possibly also in the lack of employee safety awareness.

11. *Poor housekeeping.*

Possible underlying causes are that hazards are not recognized and/or facilities are inadequate. Effective remedial strategies would include supervisory training and safety awareness, as well as better layout planning and employee training.

12. *Inadequate signs or labeling.*

These need to be adequate to provide the information required for occupational safety.

13. *Lack of proper procedures.*

Possible underlying causes would include omissions and errors in design and errors by supervisors. Remedial strategies should include improved operational procedures and improved training for supervisors.

14. *Improper use of tools, equipment, facilities.*

Possible underlying causes include lack of skill and knowledge, lack of proper procedures or lack of motivation. Remedial management strategies should include improved operational procedures and their enforcement, also supervisor and employee safety training.

15. *Fatigue and reduced alertness.*

Possible underlying causes include excessive physical or mental requirements or hours of work. Remedial management strategies should include planning, improved layout and improved design; also improved operational procedures, organization of hours of work and employee selection.

16. *Lack of guards and safety equipment.*

Underlying cause usually results from the fact that the need is not recognized or that there is

inadequate availability. Remedial management strategies should aim at improved safety rules, measures and equipment, increased employee safety awareness as well as improved operational procedures focusing on equipment, materials and tools.

17. *Job not understood.*

Possible underlying causes included inadequate comprehension usually resulting from complex instructions or from the person being new to the workplace. Remedial management strategies include improved operational procedures, planning, layout and design; also employee selection, placement, support and supervision.

Frequently occurring omissions:

The author has noted three frequently occurring omissions which contributed to some occupational accidents and which can be very easily rectified.

1. A number of minor traffic accidents, mainly at various car parks, could have been avoided had the drivers properly engaged a handbrake.

2. A significant proportion of manual handling injuries could have been avoided by teaching the person to identify hazards, perform a risk assessment and look at controlling the risks as far as practicable using the hierarchy of hazard control measures. Also having short, perhaps 5 minutes, warm-up exercises before the commencement of demanding manual handling tasks if the need to perform these tasks cannot be eliminated.

3. Particular attention needs to be paid to tasks requiring the use of ladders. The 2004 Western Australian Code of Practice entitled "Prevention of Falls at Workplaces", in chapter nine, Ladders, lists, among others, two important principles of safe work using ladders:

- Materials or tools are not carried while climbing the ladder. Tools should be carried in a tool belt or side pouch.
- Three points of contact with the ladder must be maintained at all times. This means that a person needs to have three limbs in contact with the ladder at all times, both arms and one leg, or both legs and one arm.

The same principle is emphasized in the Australian/New Zealand Standard AS/NZS 1892.5:2000 Portable ladders. Part 5: Selection, safe use and care. This Standard states "when ascending or descending a ladder, a person should face the ladder and have both hands free to grip the ladder" (p. 8).

Role of the Supervisor:

The role of supervisors in accident prevention is absolutely crucial. Without the supervisors' full commitment, even the best program is deemed to failure. Regular refresher courses

for supervisors, dealing in an interesting manner with various and topical occupational safety and health issues, is one of the most successful strategies at keeping supervisors up to date with their occupational safety and health responsibilities.

Conclusions:

This article has examined deficiencies in current accident identification investigations,

identified common causes of accidents and has made recommendations to improve accident investigations and to reduce the incidents of accidents occurring through the use of effective hazard control measures.

References:

Commission for Occupational Safety and Health. (2004). *Code of Practice. Prevention of falls at workplaces*. Perth, WA: Department of

Consumer and Employment Protection.

Pheasant, S. (1994). *Ergonomics, work and health*. London, UK: Macmillan.

Standards Australia. (2000, November). *AS/NZS 1892.5:2000 Portable ladders. Part 5: Selection, safe use and care*. Sydney, NSW: Author.

Skills required for, and Education available for, Safety Advisors

by: Dr. Janis Jansz; Senior Lecturer Occupational Health and Safety / Environmental Health, Curtin University of Technology; Adjunct Senior lecturer School of Communications & Contemporary Arts Edith Cowan University; Director of the World Safety Organization's International Office for Australia. Email: j.jansz@curtin.edu.au

Abstract

This paper describes the research methods and results for a research study conducted to look at the factors that motivate people to learn about occupational safety and health, why people choose a career as a Safety Advisor, what skills are required to work as an effective Safety Advisor and the opportunities that are provided in Western Australia to gain these skills. Research participants for this study came from the Industrial Foundation for Accident Prevention courses, were Members of the Safety Institute of Australia or attended the World Safety Organization's 21st International Environmental and Occupational Safety and Health Professional Development Conference.

The most common motivator to learn about occupational safety and health was found to be a desire to improve occupational safety and health. The most popular reasons for choosing a career as a Safety Advisor were because the respondent enjoyed doing occupational safety and health work and felt that their work made a difference. The most important skill identified as necessary to work as an effective Safety Advisor was identified as good communication. The most reported area of expertise required was management skills. Educational opportunities for developing skills were found to be available through short courses run by private enterprise, Technical and Further Education (TAFE) and through university courses of study that ranged from Bachelor Degree to PhD level.

Introduction and definitions:

This paper reports on skills required for and education available for safety professionals. In the introduction the main words from the title are defined. The decision to use Wikipedia for the definitions of the key words was deliberate as these definitions are decided by common world-wide community knowledge.

"A *skills* is the *learned* capacity or *talent* to carry out pre-determined results often with the minimum outlay of time, energy or both." (Wikipedia, 2008a, p.1).

"*Education* encompasses both the teaching and learning of knowledge, proper conduct, and technical competency" (Wikipedia, 2008b, p.1). Education began as a "natural response of early civilizations to the struggle of survival and thriving as a culture" (Wikipedia, 2008b, p.6). Education is a way of transmitting a body of knowledge. In Australia there are three formal levels of education. These are Primary School education that usually commenced when a child is 4 to 6 years old. Secondary (high school) education that follows primary school education, and Tertiary education that is not compulsory and follows on from secondary education. Tertiary education is normally vocational education and training, undergraduate and postgraduate degree training

that results in the provision of a Certificate, Diploma or an Academic Degree. Education can also be any lecture or short course that is provided on a topic by a person with the subject knowledge.

"*Safety* is the state of being safe (from French *sauf*)" (Wikipedia, 2008c, p1).

Occupational safety and health is a cross-disciplinary area concerned with protecting the safety, health and welfare of people engaged in work or employment. As a secondary effect, it may also protect co-workers, family members, employers, customers, suppliers, nearby communities, and other members of the public who are impacted by the work environment (Wikipedia, 2008d, p.1).

A *Professional* is a worker required to possess a large body of knowledge derived from extensive academic study (usually tertiary), with the training almost always formalised. Professionals usually exercise autonomy in the workplace, and are expected to use their independent judgement and professional ethics in carrying out their responsibilities. A 'true' professional must be proficient in all of the criteria for the field of work they are practicing professionally in.

Criteria include the following:

1. Academic qualifications – i.e., university, college/institute
2. Expert and specialized knowledge in field which one is practicing professionally
3. Excellent manual/practical and literary skills in relation to profession
4. High quality work
5. A high standard of professional ethics, behavior and work activities while carrying out one's profession. (Wikipedia, 2008e, p.1-2).

In addition to the definition of the key terms in the title the word Management is defined as this was the most common skill that the respondents involved in this research stated was required to work as a Safety Advisor.

Respondents of the questionnaire for this research stated that the most important expertise that a Safety Professional was required to have was to be able to manage occupational safety and health matters. For this reason management is defined.

Management is the act of getting people together to accomplish desired goals. Management comprises planning, organizing, resourcing, leading or directing, and controlling an organization (a group of one or more people or entities) or effort for the purpose of

accomplishing a goal. Resourcing encompasses the deployment and manipulation of human resources, financial resources, technical resources, and natural resources (Wikipedia, 2008f, p1).

Between June and September 2008 research was conducted to determine the factors that motivate people to learn about occupational safety and health, to choose a career as a Safety Professional, the skills that are required to work as an effective Safety Professional and opportunities that are provided in Western Australia to gain these skills. To understand the importance of this research a brief summary of how the Occupational Safety Profession and Occupational Safety and Health Representatives role in industry began in Australia is included.

Background information:

When humans first began to work they needed occupational safety to prevent them from becoming sick, injured or dying as a result of their work. In the beginning people had to take care of their own occupational safety and health as there were no Safety Professionals to do this work. When the industrial revolution came to Europe working conditions were sometimes unsafe and unhealthy for employees. Through research and observation people in society recognized that poor working conditions, particularly in factories and in mines, could affect employees' health and cause injuries or death.

The first Occupational Safety and Health Act was legislated in the United Kingdom in 1788. This was called the Chimney Sweepers Act. This Act recognized the research findings that showed that the soot in chimneys caused scrotal cancer in Chimney Sweepers and legislated to protect the health of the young boys who were employed as Chimney Sweepers. In 1833 in the United Kingdom the Factory Act was passed. This Act stated that children under 9 years old could only work in silk-mills, not other factories. This was an important Act as Factory Inspectors became an occupation that was commenced to enforce this Act. After this time many Occupational Safety and Health Acts were passed by governments to protect the health and safety of people at work. These Acts were enforced by Inspectors. All of these Acts were prescriptive and were usually written reactively to the occurrence of a work related disaster or as a result of research findings being published.

In New South Wales in 1854 the first Occupational Safety and Health Act in Australia was legislated for the inspection of coal mines. This Act was followed in 1873 by the Occupational Safety and Health Factory Act that was passed in Victoria. As other

Occupational Safety and Health Acts began to be passed in other States and Territories in Australia it was determined in some workplaces that there was a need for an employee to be responsible for occupational safety and health as Employers and Managers did not always have the time or the expertise to ensure that the company met all of the legal requirements for occupational safety and health. The person who was appointed to this position was usually one of the workers in the company who knew the workplace, work processes and people well. Tony Spouse described the selection of employees to fill this position as follows.

Back in the 70 and 80's, and even in the 60's, most safety 'professionals' were not trained for the job but had safety included in their job title as it was perceived as being closely aligned to their current role. In the chemical/petro industry the chief firemen was always the 'Safety Officer'. It was also a role that was given to injured employees. The Safety Foremen always had at least a few phalangeal parts missing or even a whole hand. It was perceived that their suffering would be sufficient to motivate other employees. In my experience, it never worked as it was intended (Spouse, 2008, p.10).

The first tertiary educational course for Safety Professionals in Australia was conducted through the Melbourne Institute of Technology in Australia in 1948 and was called *Industrial Safety and Accident Prevention*. After completing this course the first group of students formed the *Industrial Safety Research Group* as a way to share knowledge and as an organization to develop, through research findings, the Safety Profession in Australia. In 1954 the name of this organization was changed to the *Safety Engineering Society*. This organization in 1977 became known as the *Safety Institute of Australia*. The Safety Institute of Australia currently has over 3,000 Members and has Divisions in all States and Territories in Australia. The Western Australian, Queensland and South Australian Divisions were formed in 1961. Since 1948 other tertiary education institutions in Australia, and world-wide, have conducted tertiary education courses to educate students to have the skills and qualifications be employed as Safety Professionals.

There was research into ways to improve the effectiveness of occupational safety and health legislation conducted in Great Britain that was published as the Robens Report in 1972. The Robens Report identified that an ever expanding number of legal, prescriptive, hazard specific requirements that focused on the behavior of the employee and was enforced

by an army of Occupational Safety and Health Inspectors was not the best way to make the workplace, equipment used, work processes and the actions of people safe. What this Report recommended was that a General Duty of Care be required by the Occupational Safety and Health Act with prescriptive information to be included in the Occupational Safety and Health Regulations.

Under the recommended Act the employer would be required to make the workplace, equipment used and work processes safe and to provide training and supervision for employees so that they could work safely. Employees were to be made responsible for working safely and not adversely affecting the health or safety of other people at the workplace. Manufacturers and installers were to be made responsible for the safety of the equipment that they made and installed. In the Robens Report it was recommended that the primary responsibility for doing something about the present levels of occupational accidents and diseases lies with those who create the risks and those who work with them (Gilroy, 2008, p. 1).

The recommendations of this report were included in the occupational safety and health laws of Great Britain, Australia and other countries. The position of Occupational Safety and Health Representative was included in the 1984 Occupational Safety and Health Act of Western Australia. This Act was based on the Robens philosophy of everyone in the workplace having a general duty of care and included the responsibilities for employers and employees as promoted by the Robens Report.

Under part IV of the Occupational Safety and Health Act 1984 of Western Australia the Occupational Safety and Health Representatives represent the employees in relation to occupational safety and health matters. Division 2 of this Act provides for workplaces to have an Occupational Safety and Health Committee comprised of Managers, Occupational Safety and Health Representatives and any other employees elected to represent the employees on this Committee. Section 40 of this Act describes the role of the Occupational Safety and Health Committee in consultation and decision-making in relation to occupational safety and health management.

A good knowledge of legal requirements to manage occupational safety and health has become very important today, particularly with the introduction of personal fines and imprisonment becoming part of the Occupational Safety and Health Act 1984 of Western Australia s3A(4)(a). The company can also have large fines, have their reputation and work premises destroyed and people killed

when there are disasters due to poor occupational safety and health practices. Conversely good occupational safety and health management can help a company and its shareholders to become profitable and to have a good reputation. These are some of the reasons that larger companies are requiring the services of Occupational Safety Advisors.

Research Questions and Method

Research questions:

This research was designed to answer four questions.

1. What are the factors that motivate people to learn about occupational safety and health?
2. Why do people choose a Career as Safety Professional?
3. What Skills are required to work as an effective Safety Professional?
4. What opportunities are provided in Western Australia to gain these Skills?

Methods of data collection:

The required information to answer the above research questions was obtained from the 147 people who answered the research questionnaires. These responses came from Occupational Safety and Health Representatives and Managers who had attended an Industrial Foundation for Accident Prevention (IFAP) Course (69 respondents), Members of the Safety Institute of Australia (73 responses) and from people who attended a World Safety Conference (5 responses).

Industrial Foundation for Accident Prevention (IFAP)

The people who answered the questionnaire at IFAP were categorized into two groups of people, the Occupational Safety and Health

Representatives and the Management staff. Over a period of a week in June the questionnaire was given to course participants to complete, if they wanted to complete it, at the end of an educational training session that was held in Western Australia at the Industrial Foundation for Accident Prevention. There was 100 per cent questionnaire response rate. The following are the three questions that were asked.

1. Please write your employment position.
2. Are you an Occupational Safety and Health Representative?
3. Please describe what motivates you to want to learn about occupational safety and health.

Safety Institute of Australia, Western Australian Division

At an Executive Committee Meeting for the Safety Institute of Australia, Western Australian Division, the above questionnaire was further developed and asked the following.

1. Please write your employment position.
2. Please write why you chose a career as a safety professional.
3. List below the skills that you think are required to work as an effective safety professional.
4. Please describe what motivates you to want to learn about occupational safety and health.

This questionnaire was then emailed to Western Australian Division Safety Institute of Australia members who had provided the Secretary with their email address. There were 52 responses to this emailed questionnaire.

Responses from Safety Institute of Australia Members to a newsletter survey request

The research questionnaire was published in

Safety Week (2008, June 16, page 5). A problem with this method of gaining subjects was that the hyper email address link in the newsletter missed part of the email address to send the survey responses to. However the correct email address to send the survey responses to was at the bottom of the published survey questionnaire. There were 21 responses received to this published questionnaire. These responses came from Safety Institute of Australia Members Australia wide. This questionnaire was the same as the one emailed to Western Australian Division Safety Institute of Australia Members.

World Safety Organization Conference participants' responses.

The same questionnaire that was completed by Safety Institute of Australia Members was also made available at the 21st World Safety Organization's International Environmental and Occupational Safety and Health Professional Development Conference that was held in June 2008 in the United States of America. This questionnaire was completed by 5 people. This is a very low response rate but is still worthwhile considering for the international perspective that these responses bring to this study.

Research results

What are the factors that motivate people to learn about occupational safety and health?

For the Occupational Safety and Health Representatives (OSHR) and Managers who attended the Industrial Foundation for Accident Prevention course, the Members of the Safety Institute of Australia and the World Safety Conference attendees the motivators were as follows.

Table 1. Motivator to learn about occupational safety and health responses

Motivators	OSHR	Man	SIAWA	SIA	WSO	Total
Desire to improve OSH	48	5	22	2	1	78
Need for knowledge to be able to do my work	22	6	14	11	3	56
Self motivation	-	-	25	13	1	39
To further my career	11	1	-	3	-	14
Personal experience	4	1	-	-	-	5
To improve business profitability	4	-	-	-	-	4
Business protection	-	3	-	-	-	3
Personal satisfaction	2	-	-	-	-	2
No motivation	4	-	-	-	-	4
Total	95	16	61	29	5	205

Some people provided more than one response. What motivated Occupational Safety and Health Representatives the most was the desire to improve occupational safety and health in their workplace. This was the most common over all motivator. The second most common motivation was the perceived need for education to be able to perform their work

well. Working as an Occupational Safety and Health Representative was seen as a career improvement move for some Representatives with two of the 60 Representatives planning to make their future career working as an Occupational Safety Professional. A few Occupational Safety and Health Representatives were motivated by the

possibility of improving business profitability while others were motivated by personal factors. Some of the Occupational Safety and Health Representatives only took the position of Occupational Safety and Health Representatives because no one else would. These Representatives were not motivated to want to improve occupational safety and

health.

Surprisingly “to improve business profitability” was not one of the motivational themes that came from the business managers who completed this questionnaire. The most commonly reported motivation was the need to develop skills in occupational safety and health management, followed by a desire to improve occupational safety and health for their workplace. A theme that the Occupational Safety and Health Representatives did not have as motivation, but that was a motivating factors for managers was “Business Protection.” The need to have formal tertiary education qualifications was mentioned as was personal experience of working in a hazardous environment. The following is a quote from a Safety Professional who completed the Industrial Foundation for Accident Prevention questionnaire. It describes how the educational requirements to be a Safety Professional are changing.

Most employers require a minimum Certificate Four with the normal being a

Diploma or Degree level qualifications in occupational safety and health. Gone are the days when being able to do something was the most important requirement. I am at the point where employment opportunities have escaped me because I don't have formal qualifications. The interesting thing is that safety wages are coming down as educational requirements are going up.

Self motivation (25 responses) was the most common motivator for the Safety Institute of Australia survey respondents to learn more about occupational safety and health. Self motivation was not mentioned by the Occupational Safety and Health Representatives or by the managers. The next most common response from the Western Australian Safety Institute of Australia Members was that respondents learnt because they wanted to improve occupational safety and health (22 responses). The desire to learn more about occupational safety and health to improve this was stronger in Western Australia (42% of respondents stated that this was their

motivation to learn) than in Eastern Australia (9%). The remaining respondents were motivated to learn because they wanted the knowledge to be able to do their work. In summary all Western Australian Divisional Member survey respondents were motivated to continuously learn about occupational safety and health practice to be effective in their employment positions. Where career advancement was a reason in Western Australia for becoming a Safety Professional in Eastern Australia this was a motivation for learning about occupational safety and health for 14% of respondents. The World Safety Organization conference participants' replies were similar to those of the Safety Institute of Australia Members' replies.

Why do people choose a Career as a Safety Professional?

The following responses were documented by the Safety Institute of Australia Members and the World Safety Conference attendants as the reasons that these people chose a Career as a Safety Professional.

Table 2. Career choice reasons.

	SIAWA	SIA	WSO	Total
Enjoy doing occupational safety & health work	19	7	1	27
Felt I could make a difference	17	6	2	25
Part of my work	8	-	-	8
Offered a career change	-	8	-	8
Career advancement	6	-	-	6
Background	-	-	2	2
No motivation to work in occupational safety & health	2	-	-	2
Total	52	21	5	78

In this section every individual provided a different response, but it was possible to combine these responses into main themes. The most common answer given as the reason for choosing a career as a Safety Professional by the Western Australian Division Members of the Safety Institute of Australia was because the person enjoyed doing this work (19 responses). The people who were most passionate about their work were the people who strongly believed that their work would make a difference to people's life (17 responses). These two categories could have been one as there were common themes with both groups enjoying their work and wanting to make a difference. Not all people who answered this question were Safety Professionals, but they did have occupational safety as part of their work as is evidenced by the following response.

My first real interest was during my service in the Royal Australian Navy when teaching Damage Control and Fire Fighting. Although not a Safety Professional I have

maintained my association with the Institute because in my employment as a Dock Master I am involved in lifting, lowering and moving large loads during the launch and docking of ships. The largest of these loads has been 16,000 tonne. When handling loads of this size there is the potential for problems if one is not aware of all the possible things that can go wrong, maintaining my Membership has allowed me to keep abreast of improvements within the world of safety and has helped to keep me focused. With over 1000 ship movements to my name and not one accident, my safety affiliation has worked. I am currently in the USA with my company as the Construction Manager of new facilities within the shipyard and in 15 months we have not had one lost time injury on any of the projects completed to date. As a Safety Amateur I think I have done well since joining the Institute 23 years ago.

The third most common reason given for working as a Safety Professional was that

occupational safety and health was just a part of their work (8 responses). These people did not seem to have the same passion and enjoyment of their work that was evident in the first two groups of respondents. The fourth most common answer was career advancement. This group of respondents chose to work as Safety Professionals after having worked in other employment positions. There were two respondents who reported no motivation to work as Safety Professionals, but were working in this employment position.

The main themes identified from the responses from Members of the Safety Institute of Australia in other Australian States and Territories were that people became Safety Professionals as part of a career change (top response) or because they enjoyed doing occupational safety and health work or because they thought that they could make a difference to people's life by making the workplace a safer, healthier place to be. The second two themes were also noted in the Western Australian survey responses as the top two

responses.

For the international respondents two of the themes recorded were the same as those recorded by the Safety Institute of Australia respondents. The remaining theme (background) was different. Two of the respondents looked at using the skills that they had as being skills that fitted them to work as a Safety Professional and for this reason chose

a career working to improve occupational safety.

Safety Professionals have an important role in a workplace as they provide advice on how to keep everyone who comes on to the work site, or who can be affected by work activities, safe. The following are skills that Safety Professionals state are required to be able to do

their work effectively.

What Skills are required to work as an effective Safety Professional?

The following responses were documented by the Safety Institute of Australia Members and the World Safety Conference attendees as the skills that were required to work as an effective Safety Professional.

Table 3. Skills required to work as an effective Safety Professional

	SIAWA	SIA	WSO	TOTAL
Management	118	35	16	169
Ergonomic	68	23	3	94
Research, writing & computer use	33	14	-	47
Technical	24	7	1	32
Training	5	3	-	8
Occupational hygiene	4	-	-	4
Learning	-	2	-	2
Car driving	-	1	-	1
Ability to work long hours for low pay	-	-	1	1
Personality types	15	17	2	34
Education	14	11		25
Total	281	113	23	417

In this section all respondents listed the skills that they considered were important to have to be able to work as a Safety Professional. All respondents listed more than one skill.

The 52 Safety Institute of Australia, Western Australian Division, respondents provided 281 responses to the question "List the skills that you think are required to work as an effective safety professional". The most commonly reported skill required was good communication skills (65 percent of respondents). For all other responses there was only a few people who provided the same answer showing how wide a range of skills were perceived to be required by these respondents. When looking at the main areas of expertise required the most common response was management skills (118 responses), followed by ergonomic expertise (68 responses), research and writing skills (33 responses), technical skills (24), training skills (5) and occupational hygiene skills (4 responses). Even though only skills were asked for in this question the respondents also provided information on the type of personality that they considered was needed to be a successful safety professional (15 responses) and their perception of the educational requirements a person must have to work in this employment position (14 responses). It was noted that both practical experience in the field in which the person was working (to understand the work processes) and tertiary education (to develop occupational safety and health specific knowledge) were considered to be required by these respondents.

The 21 respondents from other Australian States and Territories provided 113 responses to the same question. Similarly the skill that received the highest response rate was communication (43% of respondents listed this skill). The main areas of expertise perceived as being required were again management skills (35 responses), followed by ergonomic skills (23 responses), research, writing and computer use skills (14 responses), technical skills (7 responses) and training (3 responses). Where the Western Australian respondents included having occupational hygiene skills as being important none of these respondents included occupational hygiene as an important skill. Instead they included learning skills (2 respondents) and car driving skills (1 respondent).

Similar to the Western Australian respondents these Safety Professionals again listed the personality traits required (17 responses) and the educational requirements for a safety professional (11 responses). From Western Australian responses the most important personality trait was documented as having confidence. For Eastern Australia the highest response was for being patient. The most recorded educational requirement for Eastern Australia was relevant industry experience. This was in contrast to Western Australia where there was more of a focus on tertiary qualifications to be a Safety Professional. However there was a mix of requiring both tertiary education and relevant work experiences by both groups.

As for the Safety Institute of Australia

Members and the World Safety Organization Conference participants the skill that received the highest response rate was communication (40%) and similarly the main area of expertise was perceived as being management skills. Like the Safety Institute respondents these respondents also listed what they considered were the personality traits required to be a Safety Professional. One of the respondents at the conference perceived that a Safety Professional needed to have the ability to work long hours for low pay. In Australia working as an Occupational Safety Professional was seen as a career advancement move, which was a different perception to this respondent. None of the World Safety Organizational Conference respondents mentioned education as a "skill" that was required to be a Safety Professional. This was in contrast with the Western Australian respondents who saw tertiary education as an important "skill." Seventy eight percent of the Western Australian survey respondent who commented on the education required to be a Safety Professional stated that tertiary education was essential.

What opportunities are provided in Western Australia to gain these skills?

(a) Occupational Safety and Health Representatives:

In some workplaces the only person who "manages" occupational safety and health is the Occupational Safety and Health Representatives. Regulation 2.2 of the Occupational Safety and Health Regulations 1996 of Western Australia states that in the first year of holding office Occupational Safety

and Health Representatives are to be provided with a 5 day occupational safety and health course that is accredited by the Commission for Occupational Safety and Health in Western Australia.

This course includes providing the Occupational Safety and Health Representatives with relevant information about the Western Australian Occupational Safety and Health Act (1984) and Regulations (1996), Guidance Notes, Codes of Practice and Australian Standards. Information provided in this course covers the role of the Occupational Safety and Health Representatives and various other parties including the role and power of WorkSafe Inspectors, how to identify hazards, assess the risk of the hazard causing harm, the hierarchy of risk control measures, processes for resolving occupational safety and health issues in the workplace including when trained Occupational Safety and Health Representatives are allowed to issue Provisional Improvement Notices and how to participate effectively in occupational safety and health committee meetings.

A list of accredited training providers for the Western Australian Occupational Safety and Health Representatives Course can be found on the WorkSafe Western Australia website at the web address of <http://www.safetyline.wa.gov.au>.

Something that all Occupational Safety and Health Representatives usually have is relevant work experience. Members of the Safety Institute of Australia who answered the survey questions reported that this was important. One of the respondents documented that Safety Professionals needed to have "*formal qualification other than a 5 day occupational safety and health course*". To achieve this additional knowledge Occupational Safety and Health Representatives can also do short courses to learn additional skills to enable them to be more effective in their Occupational Safety and Health Representative's role. There are private organizations in Western Australia that provide this training.

(b) Private training organizations:

There are Safety Professionals in Western Australia who have had no tertiary occupational safety and health education. To keep up to date with occupational safety requirements Occupational Safety and Health Representatives and Safety Professionals may attend short courses to develop their skills to manage occupational safety. Managers and other employees also can desire to improve their occupational safety knowledge. This perceived need for short course to provide education about occupational safety has opened a market for Consultants and organizations to provide these courses. As an example of

organizations that provide occupational safety education the occupational safety skill development courses of two private enterprise organizations are highlighted.

Industrial Foundation for Accident Prevention (IFAP):

This organization was chosen as some of the research respondents had completed occupational safety and health skills training through this organization. The Industrial Foundation for Accident Prevention (IFAP) describes itself as "a non government, not for profit, member based organization providing services to improve safety and health in the workplace" (IFAP, 2008, p.1). This organization has training premises at North Lake, Fremantle, Perth, Bibra Lake, Kalgoorlie and in Darwin. As well as providing classrooms for educational purposes this company has practical training facilities that include fork lifts for driving training, height safety training facilities and a variety of workplace safety training workshops. Some of the safety subjects provided in the courses presented by the Industrial Foundation for Accident Prevention include the following:

- Climbing and working with scaffolding
- Walking into an excavation pit from an elevated platform
- Viewing, identifying and entering confined spaces
- Working with vessels and operation gauges, valves and instrumentation that will incorporate stored energy
- Performing electrical and mechanical isolations and tagging
- Duty of Care
- Personal safety
- Job hazard analysis and permit to work
- Scaffolding
- Working at heights
- Excavation
- Confined spaces
- Fire safety
- Overhead work
- Rigging
- Manual handling and ergonomics
- Travel safety
- Drugs and alcohol
- Mobile equipment safety
- Electrical safety
- Hot work
- Hazardous materials
- Workshop tools and guarding
- High pressure blasting
- Housekeeping
- Waste and environmental management

IFAP conducts a variety of courses including an accredited Occupational Safety and Health Representatives course, accredited Construction Safety Awareness blue card course and a Safety Awareness Induction

Passport for use when entering a new work site (IFAP, 2008).

People who attend IFAP courses are encouraged to become Members of the IFAP Club. Membership benefits include a printed copy of the IFAP National Reference Handbook and CD Rom of this book, access to an on-line question and answer service, weekly emailed Occupational Safety Alerts, a National Quarterly Newsletter, ability to search current and past IFAP publications and online site contents, access to legal IFAP retained advisors, a qualified occupational safety and health consultant to conduct an on-site safety survey and further risk management support at a reduced industry rate, access to the Workplace Safety Australia website and other educational occupational safety materials. IFAP has business partnerships with other organizations. Further information about IFAP can be found at the web address www.ifap.asn.au.

Another occupational safety and health skill development organization that has its own Members is the Mining and Resource Contractors Safety Training Association.

Mining and Resource Contractors Safety Training Association (MARCSTA):

In 1995 Doug Rogers had an article published that described the difficulties that contractors who worked in the mining industry had with having to have a general occupational safety and health induction for every work site that they visited. Contractors may only work at a specific work site for a few days and then when they went to another work site they received the same generic occupational safety and health lecture. For these contract workers time equaled money and they did not waste it sitting in a repeat lecture they had a few days ago, and would have again in the coming weeks.

These contractors decided to form an organization called MARCSTA (Mining and Resource Contractors Safety Training Association) with their first occupational safety and health education course being run in the South-West of Western Australia on the 18th of July 1996. This non-profit contractor safety training organization has Members, a Director of Safety and Health, an elected Chairman, Deputy Chairman, a Committee of Management and paid administration staff. The objectives of this organization is "to develop and implement safety and health training programs for the mining and resource industry, which would promote improved safety standards, and ensure that the training reflected the changing needs of industry" (Maglizza, 2008, p.1).

Graduates of the MARCSTA 8 hour Generic Occupational Safety and Health Mining Course

and of the Generic Underground Occupational Safety and Health training are given a Passport that is current for two years before requiring refresher training. This has eliminated the need for generic occupational safety and health training at every work site visited and has become the required generic occupational safety and health training for the mining industry in both Western Australia and Tasmania. MARCSTA is a registered training association with 44 Trainers and now also provides other occupational safety and health short courses including the Construction Safety Awareness program (blue card) and the Extended working hours program (Taylor, 2008). Further information about the educational opportunities that are offered through MARCSTA can be obtained from the web address www.marcsta.com

More than 16,000 people attended the occupational safety and health education programs run by MARCSTA in 2007 (Taylor, 2008). Ian Douglas (2007) conducted research for his Doctor of Philosophy by evaluating the effectiveness of the MARCSTA occupational safety and health training courses through an empirical research study that analyzed information collected from a randomly selected group of 1,600 trainees who attended the MARCSTA course over a period of 12 months. Douglas's analysis of the research data showed strong evidence that learning occurred among MARCSTA trainees in the area of occupational safety and health knowledge. Douglas (2007, p.ii) found that "after more than ten years in operation the MARCSTA safety induction course still retains strong support from trainees attending the course some for the third or fourth time." This research also showed that there has been a 55% reduction in reported injuries per 1,000 employees in the Western Australian mining industry since the introduction of the MARCSTA courses in 1996.

In conjunction with the International Society of Mine Safety Professionals MARCSTA awards the annual Jim Torlach Scholarship to financially support the full time tertiary degree education studies of one student per year for their 3 year Bachelor of Science (Occupational Health and Safety) study. James Milne Torlach (1938 – 2006) made an outstanding contribution to the improvement of safety and health in the mining industry in Western Australia, being responsible for the complete overhaul and modernization of mine safety legislation culminating in the passage of the Mines Safety and Inspection Act 1994. This university education scholarship honors his memory.

(c) **Tertiary education opportunities:**

Prior to the introduction of tertiary education

opportunities for occupational safety studies most of the Occupational Safety Practitioners were male. Today there is a considerable amount of tertiary educated females working as Safety Professionals. There are multi levels of tertiary education for occupational safety and health professionals. These levels are as follows.

1. Technical and Further Education (TAFE):

In Western Australia there are four metropolitan campuses for TAFE and seven regional campuses. TAFE offers the following occupational safety and health educational courses.

- Certificate III of Occupational Health and Safety. This 350 hour course covers the basic concepts of occupational safety and health management. It is considered to provide "practical skills and knowledge to work within entry level positions in the field of OH&S" (Swan TAFEWA, 2008, p.1). In Western Australia this course is offered at the Joondalup, Midland and South Headland premises.
- Certificate IV of Occupational Health and Safety. This 430 hour course builds on the information provided in the Certificate III and includes additional safety management and occupational hygiene monitoring education. This is considered to be an occupational safety and health supervisory level course. The course is offered at the Balga, Carlisle, Midland and Perth premises in Western Australia.
- Diploma of Occupational Health and Safety. This 360 hour course builds on the information that the students has learnt in their Certificate III and VI and provides additional information on hazard identification, risk assessment and risk control measures. This is considered to be an occupational safety and health lower and middle manager's course. This course is offered at the Albany, Balga, Carlisle, Joondalup, Perth and South Headland premises in Western Australia.
- Advanced Diploma of Occupational Health and Safety. This 360 hour course builds on the previous three courses and provides additional information about using ergonomic and occupational hygiene principals to control the risk of work related hazards causing harm. It also contains information on conducting an occupational safety and health audit. This course is offered at the Carlisle Swan TAFE premises in Western Australia.

All together 1,500 hours of occupational safety and health education is provided through Technical and Further Education organizations in Western Australia. The skills that are taught through the TAFE courses reflect many of the skills stated as being required by the

research participants in this study to work as an effective Safety Professional. Further information on these courses can be obtained from the following web addresses. Central TAFE www.centraltafe.wa.edu.au Challenger TAFE www.challengertafe.wa.edu.au Swan TAFE www.osheducation.com West Coast TAFE www.westcoast.tafe.wa.edu.au Regional TAFE Colleges www.tafe.wa.edu.au All TAFE occupational safety and health courses in Australia, have compulsory units of study in set courses that are required by the Australian Quality Training Framework (AQTF), to provide and develop the predetermined competencies.

2. Universities

In 1994 WorkSafe Australia produced a Guidance Note for the development of tertiary level courses for professional education in occupational health and safety. Subjects suggested for inclusion for tertiary occupational safety and health education included the following:

- principles of adult education;
- behavioral science;
- biostatistics;
- communication;
- computing;
- criminology;
- economics;
- epidemiology;
- ergonomics;
- ethics;
- history;
- industrial relations;
- information management;
- management;
- occupational diseases;
- occupational health and safety law;
- occupational hygiene;
- organizational behavior;
- political science;
- rehabilitation;
- risk assessment;
- safety engineering;
- sociology – legal and workplace aspects; and
- toxicology (WorkSafe Australia, 1994, p. 11).

This information however, was only a guideline and although the majority of these subjects are taught at universities in some of the occupational safety and health courses not all of these subjects are included in every course, nor were they all considered important by the Safety Professionals who are currently working in industry who answered this research survey.

There are three universities where occupational safety and health courses are conducted to provide education for graduates to become Safety Professionals. Again there are multi levels of education provided through the

universities.

Curtin University:

This university has 5 levels of occupational safety and health education. The first level is a *Bachelor of Science (Health, Safety and Environment)*. This course has two majors. A health and safety major and an environmental health major. There is a common first year that covers an introduction to health, safety and environment, health science communication, human biology, chemistry, physics, microbiology, epidemiology, biostatistics, global and indigenous public health and food safety. For the students studying to become Safety Professionals the second and third years of this course cover safety and environmental health law, occupational ergonomics, occupational hygiene, health and safety technology, risk assessment and risk management, psychology, toxicology and diseases, occupational health and safety management, emergency management, injury and workers compensation management, applied research and biostatistics. This course also included environmental impact assessment, environmental health specialization, sustainable production and consumption and the units occupational health and safety practice and professional practice and project where the students conduct practical occupational safety and health work in industry. This course has 27 set units of study that are available to study through on campus lectures or by distance education. This is a 3 year full time study course, but can be studied over a longer period of time through part time study. Graduates of this course (with a 65% or higher course weighted average) can progress on to complete a further year of research-based study and graduate with a *Bachelor of Science (HealthScience) (Honors)*. Graduates of this course can then progress their studies on to enrol in PhD studies in occupational safety and health.

The next level courses are the 4 unit *Graduate Certificate in Occupational Health and Safety Management*, an 8 unit *Postgraduate Diploma in Occupational Health and Safety* and a 12 unit *Masters of Occupational Health and Safety*. These postgraduate courses build on each other. Full time study is 4 units per semester. In each of these courses there is some flexibility to choose an optional unit for study as well as having set units of study. Units of study in this course include the following. Law (occupational health and safety and human resource), accident prevention and safety management, risk management and safety technology, ergonomics, occupational hygiene and chemical safety, health and safety economics and management, diseases of occupations, compensation and injury

management, environmental health risk assessment, environmental health impact studies, health research methods, occupational health and safety project and health and safety technology in mining. There is also one unit that is studied through on campus lectures called occupational exposure measurement and evaluation.

Graduates of the Master of Occupational Health and Safety can continue on to enrol in PhD studies and complete research to obtain a Doctor of Philosophy in Public Health. Further information about these courses can be obtained from the web address www.curtin.edu.au.

Edith Cowan University:

This university provides postgraduate occupational safety and health courses. Through the School of Nursing, Midwifery and Postgraduate Medicine a Graduate Certificate, Postgraduate Diploma and a Masters in Occupational Medicine, Health and Safety can be obtained. To enrol in any of these courses the person must be either a Medical Practitioner or a Registered Nurse. These courses are aimed at extending the students' knowledge in occupational health and diseases as well as the systems that underpin safety in the workplace.

The *Graduate Certificate in Occupational Medicine, Health and Safety* contains 3 set units of study. These are evidence-based practice, management of occupational diseases and injuries 1 + 2. The *Graduate Diploma in Occupational Medicine, Health and Safety* contains 6 units of study, the first 3 of which are in the Certificate. The additional units of study are occupational health practice, rehabilitation medicine and prevention of accidents and ill health at work. The *Master of Occupational Medicine, Health and Safety* contains 9 units of study. In addition to the units of study in the Graduate Diploma these students complete an epidemiology unit of study and have a choice of two additional units of study from other courses in the Faculty of Computing, Health and Science.

Through the School of Exercise, Biomedical and Health Science there are also postgraduate occupational safety and health courses offered. These include a Master of Occupational Hygiene and Toxicology, Graduate Certificate in Occupational Safety and Health, a Graduate Diploma in Occupational Safety and Health and a Master of Occupational and Environmental Safety and Health.

The *Master of Occupational Hygiene and Toxicology* has 12 units of study that can be covered at the rate of 3 units per semester to complete this course in 2 years. This course covers occupational hygiene, research methods,

biostatistics, environmental sampling, toxicology, environmental health, accident and ill health at work prevention.

The *Master of Occupational and Environmental Safety and Health* has 9 units of study. Students can exit this course after completing 3 units of study to graduate with a *Graduate Certificate in Occupational Safety and Health*, or after competing 6 units of study with a *Graduate Diploma in Occupational Safety and Health*. The Master of Occupational and Environmental Safety and Health covers prevention of accidents and ill health at work, occupational health and safety management, safety technology, ergonomics, rehabilitation, compensation, health promotion, occupational hygiene, toxicology, environmental health, system safety management and emergency planning.

After completing any of the Masters courses students can continue on to complete a *Doctor of Philosophy in Occupational Safety and Health*. More information about the occupational safety and health courses available at Edith Cowan University can be obtained from the web address www.ecu.edu.au.

Murdoch University:

Murdoch University has a 3 year *Bachelor of Science (Health and Environment)* course for people to study to develop the skills to be able to "manage occupational health and safety in a wide range of industries including; mining companies, chemical manufacturers, consulting companies and water management agencies" (Murdoch University, 2008, p.1). In this course the students complete units of study in environmental biology, principles of vertebrate physiology, introduction to the human body, biostatistics and information retrieval, pollutants and the human environment, health and society or environmental policy and law, biostatistics methods, biomedical physiology, issues in environmental and occupational health, health and the environment and one unit on occupational health and safety. As part of this degree course these students also select 7 optional units of study that give them the flexibility to learn from a variety of different areas. Students in this course can do a double major with this Bachelor of Science (Health and Environment) course in the following areas of study. Environmental Science, Environmental Management, Biological Science, Forensic Biology and Toxicology or Molecular Biology. To do a double major these students select their general electives all from the area in which they wish to do a major in. More information about this course can be obtained from the web address www.murdoch.edu.au.

Summary:

Where all of the TAFE courses in Australia had set units of study that were included in each occupational safety and health course Australia wide, the universities in Western Australia offered tertiary education occupational safety and health courses that had a variety of different subjects included. This allows people to select the course that they want to meet the area of occupational safety and health that they wish to specialize in.

When asked about their employment title the following information was provided by the survey respondents who took part in this research study.

- 72 respondents included Safety in their employment title, (100%)
- 51 of these 72 also included Health, (70.8%)
- 23 included environment, (32%)
- 9 included Quality, (12.5%)
- 5 included Training, (7%) and
- One person included Security, one person included Paramedic, one person included Engineer and one person included Workers Compensation Manager.

Some of these respondents included two or more of the above words in their employment title indicating that they had responsibilities for more than just occupational safety as part of their work.

Conclusions:

This paper has looked at the skills required for and education available for people who would like to or who are currently working as a Safety Advisor. This research has identified that there are a variety of levels of education for people to undertake to improve their occupational safety and health knowledge. These course range from short (one or more hours) courses provided by private industry education provider, to Technical and Further Education Courses (TAFE) that have consistent units of core occupational health and safety management study for each level of education course to University Education. Occupational safety university education ranges in levels from a 3 year Degree, to Honors Degree, Graduate Certificate, Graduate Diploma, Masters and PhD level. The university education covers a wide variety of topics with different courses allowing the gaining of specialized knowledge in a particular field of occupational safety and health.

This research has identified that the research respondents most common motivator to learn about occupational safety and health was a desire to improve occupational safety and health. When career planning the reason that most of the research respondents chose to work as a safety professional was because they enjoyed doing occupational safety and health

work and felt that they could make a difference. To be a "professional", in the introduction it was stated that the person is required to possess a large body of knowledge gained from extensive academic study. The research respondents recorded that the most important areas of expertise required to work as an Occupational Safety Professional were management (169 responses), ergonomic (94 responses), research, writing and computer use (47 respondents), technical (32 respondents), training (8 respondents) and occupational hygiene expertise (4 responses). The possession of a large body of knowledge related to these areas of expertise can be gained through the study of Occupational Safety and Health tertiary education courses.

As a summary one research participant had the following to say. "I think that one needs education to support the practical skills and/or practical skills to support the educational training. I believe that a mix is the best path." This sentiment was echoed by other research respondents and indicated that for the future career planning and education for Safety Professionals should include providing a good theoretical occupational safety and health knowledge and practical workplace, work process and people management experience.

A copy of this paper and Appendix 1, which contains the research survey responses, can be found at the following:

- World Safety Organization Journal XVII No.2, 2008
- Safety Institute of Australia, Western Australian Division. www.siaawa.org.au
- Safety Institute of Australia. www.sia.org.au
- IFAP. www.ifap.asn.au

Acknowledgments:

The help of the following people is acknowledged for this research work.

- All of the survey respondents, without whose help this research could not have been conducted.
- Martin Ralph for the suggestion to research this topic.
- Debbie Burgess for giving out this research survey questionnaire at the 21st World Safety Organization International Environmental and Occupational Safety and Health Professional Development Conference.
- Arianne George, Manager – Corporate Communications IFAP, for assistance with providing the surveys to IFAP course attendees.
- Safety Institute of Australia, Western Australian Division, Executive Committee Members for advice concerning the development of the survey questionnaire.
- Ron Adams, Center for Associations Management, for emailing the survey questionnaires to Safety Institute of

Australia, Western Australian Division Members who provided an email address.

- Sheryl Dell, Director of Protosafe, for assistance with making this an Australia wide research survey.
- Kevin Jones for publishing this research survey questionnaire in Safety Week.

References:

Gilroy, P. (2008). *Will increasing prosecutions improve occupational safety and health performance?* Western Australian Safety Conference. Perth Convention and Exhibition Center, Perth, Western Australia.

Douglas, I. (2007). *The Mining and Resource Contractors Safety Training Association (MARCSTA) and the efficacy of a generic occupational health and safety induction system when used across an industry*". Joondalup, WA: Edith Cowan University.

Education. (2008b). Wikipedia. Accessed 2008, August 27 from <http://en.wikipedia.org/wiki/Education>

IFAP. *35 years of leading risk management solutions*. Accessed 2008, September 20 from www.ifap.asn.au

Maglizza, J. (2006). MARCSTA 150,000th certificate –presented at the Association's AGM. *MARCSTA Monitor*. 10(1), p.1.

Management. (2008f). Wikipedia. Accessed 2008, August 27 from <http://en.wikipedia.org/wiki/Management>

Murdoch University. (2008). *Health and Environment*. Murdoch, WA: Author.

Occupational safety and health. (2008d). Wikipedia. Accessed 2008, August 27 from http://en.wikipedia.org/wiki/Occupational_safety_and_health

Professional. (2008e). Wikipedia. Accessed 2008, September 1 from <http://en.wikipedia.org/wiki/Professional>

Research request. (2008, June, 16). *Safety Week*. 150, p.5.

Rogers, D. (1995). Safety Considerations for the Management of Contractors. *Safety Institute Journal*. 3(3), 13-19.

Safety. (2008c). Wikipedia. Accessed 2008, August 27 from <http://en.wikipedia.org/wiki/Safety>

Skill. (2008). Wikipedia. Accessed 2008, October 17 from <http://en.wikipedia.org/wiki/Skills>

Spouse, T. (2008, August 25). SIA Fellow Profile – Tony Spouse. *Safety Week*. 160, 8-11.

Swan TAFEWA. (2008). *Business Service Training Package BSB01 Residents of WA*. Perth, WA: Author.

Appendix 1

RESPONSES

From IFAP:

- 60 OSH Representatives
- 9 Management staff

From SIA:

- 52 WA
- 21 rest of Australia

WSO Conference

- 5 attendees

Total responses = 147 responses

- **Factors that motivate people to learn about OSH**
- **Factors that motivate people to choose a career as a safety professional**
- **Skills that are required to work as an effective safety professional**
- **Employment position titles**

Industrial Foundation for Accident Prevention participants' survey responses

Factors that motivate people to learn about OSH:

For the first two groups of people (the Occupational Safety and Health Representatives and the management staff) a questionnaire was given to these people to complete if they wanted to at the end of an educational training course at the Industrial Foundation for Accident Prevention (IFAP) course that was held in Western Australia. There was 100 per cent response rate. The following are the responses to the following three questions.

1. Please write your employment position.
2. Are you an Occupational Safety and Health Representative?
3. Please describe what motivates you to want to learn about occupational safety and health.

Occupational Safety and Health Representatives

There were 60 respondents who were occupational safety and health representatives. Below are their responses to the question "Please describe what motivates you to want to learn about occupational safety and health." Some respondents provided more than one reply. All respondents answered this question.

Desire to improve occupational safety and health. (48 responses)

- *Want to learn what to do and what not to do to improve occupational safety and health for my co-workers and myself to help make*

changes where needed to do this. (24 responses).

- To help people and to be able to stand up for workmates. (9)
- I believe people should be able to work in a safe environment and not bring the ugliness of injuries home to affect their families and lifestyle. (4)
- To help promote safety and health matters at our workplace. (2)
- To educate people I come in contact with and hope that they live a safer life. (2)
- Because I don't want to hear about or see anyone I know get hurt.
- To save injuries and death occurring.
- I have a young family.
- To change the culture at my workplace.
- To make a difference in the workplace and encourage others to awareness.
- To help to make the industry safer.
- Want to ensure that people have an attitude to look after each other's well being.

Need for knowledge to be able to do my work: (22 responses)

- Want to understand the legal responsibilities of the employer and employees in relation to occupational safety and health. (5)
- Want to have knowledge to back up comments and decisions that I make at committee meetings and in the workplace. (4)
- To gain as much information as I can to ensure that I am working in a safe environment and can contribute to making my workplace and colleagues as safe as possible. (4)
- To improve my communication skill and negotiation skills. (3)
- To enable me to do my job better. (2)
- To understand my role as a Safety representative in regards to a safe work environment for me and my co-workers.
- I want to learn problem solving skills, how to identify hazards in a workplace and how to issue Provisional Improvement Notices.
- To be better aware and care for the health and safety of my family, friends, colleagues and myself.
- I want to learn as much as possible about safety and be a leader in the discipline. I realize that safety is a value and want to convince others, and therefore I need to be up to date.

Career: (11 responses)

- To further my career. (8)
- I would like to study further to become an OSH Officer. (2)
- To make my employer want to keep me.

Personal experience: (4 responses)

- Having witnessed several bad accidents I am interested in how to prevent them. (2)
- Near misses at work.
- Personal experience of illness.

To improve business profitability: (4 responses)

- Want to have better accident and illness prevention to decrease the number of workers compensation claims. (2)
- To save lost time and the costs involved after an occupational injury or illness occurs.
- To increase productivity.

Personal satisfaction: (2 responses)

- I felt that I would do a good job representing the employees in matters of health and safety by being a good listener and fairly representing issues to management.
- Occupational safety and health is part of the company's safety culture globally. We pride ourselves on having a healthy and safe environment.

No motivation to improve occupational safety and health: (4 responses)

- No one else wanted the job. (2)
- To keep busy.
- Biscuits (Cream).

What motivated occupational safety and health representatives the most was the desire to improve occupational safety and health in their workplace. The second most common motivation was the perceived need for education to be able to perform their work well. Working as an occupational safety and health representative was seen as a career improvement move for some representatives with two of the 60 representatives planning to make their future career working in occupational safety and health. A few occupational safety and health representatives were motivated by the possibility of improving business profitability while others were motivated by personal factors. Two of the occupational safety and health representatives only took the position of occupational safety and health representatives because no one else

would. These representatives were not motivated to want to improve occupational safety and health.

Employment position

The following are the responses provided to the request "Please write your employment position." The respondents form all of the following employment positions stated that they were Occupational Safety and Health representatives. The occupational safety and health representatives came from a wide variety of occupations with working in the manufacturing, mining and construction industries being the most common places of employment.

- Electrician (2)
- Fixed Plant operator (2)
- Forklift operator (2)
- Jumbo Operator (2)
- Mining engineer (2)
- Mobile plant operator (2)
- Quality Assurance and Safety Manager (2)
- Supervisor (2)
- Trades assistant (2)
- Accountant
- Airport operations
- Asset manager
- Builder
- Boilermaker Welder
- Conveyor belt technician
- Customer service representative
- Diesel fitter
- Driller
- Educator
- Electrical field maintenance officer
- Electrical maintainer
- Extrusion operator
- Field maintenance officer
- Field mechanical officer
- Fitter
- Grave digger
- Kiln operator
- Laborer
- Laboratory analyst
- Laboratory technician
- Mechanical team leader
- Mine worker
- Network officer
- OHP operator
- Personal assistant – operations
- Permit officer
- Process and systems analysis
- Process technician
- Project manager
- Store person
- Traffic services officer
- Training administration officer
- Trainer assessor for the mining industry
- Underground miner
- Work center coordinator
- No employment position written (3)

The above list shows that the survey

respondents came from at least 45 different employment positions and represented people from a wide range of industries.

Management staff

There were 9 respondents who did not think that they were Occupational Safety and Health Representatives. These people were workplace management staff. Below are their responses to the question "Please describe what motivates you to want to learn about occupational safety and health." Some respondents provided more than one reply. All respondents answered this question.

Skill development (6 responses)

- To learn my obligations and responsibilities as a manager of staff.
- To get an overview on how to start and run an occupational health and safety management system.
- To be current with up to date occupational safety and health legislation, requirements and implementation.
- To gain knowledge on how to implement an occupational safety and health policy.
- To gain knowledge on reviewing a policy to ensure compliance.
- To further develop my skills in this area.

Desire to improve occupational safety and health (5 responses)

- To protect myself and others in the workplace (2)
- A desire to promote safety
- To be able to ensure I am performing my role to the highest level to assist in keeping accidents and incidents as low as practicable.
- Occupational safety and health has always been a very important factor when you are working in the construction or mining industry. I am working for the construction industry and involved in managing contracts so I must have an understanding of safety requirements so I can incorporate them in contracts, etc for sub contractors.

Business Protection (3 responses)

- To ensure that all obligations are met and complied with under the Act, Regulations and for insurance purposes. (2)
- To ensure that the company interests are protected with regard to occupational health and safety legislative requirements.

Career (1 response)

- Most employers require a minimum Certificate four with the normal being a Diploma or Degree level qualifications in occupational safety and health. Gone are the days when being able to do something was the most important requirement. I am at the point where employment opportunities have escaped me because I don't have formal qualifications. The interesting thing is that

safety wages are coming down as educational requirements are going up.

Personal experience (1 response)

- Background in hazardous environments (1)

Surprisingly "to improve business profitability" was not one of the motivational themes that came from the business managers who completed this questionnaire. The most commonly reported motivation was the need to develop skills in occupational safety and health management, followed by a desire to improve occupational safety and health for their workplace. A theme that the Occupational Safety and Health Representatives did not have as motivation, but that was a motivating factors for managers was "Business Protection." The need to have formal tertiary education qualifications was mentioned as was personal experience of working in a hazardous environment.

Employment position

- State Manager
- Contracts Administrator
- Equipment Manager
- Executive Assistant
- Group Commercial Manager
- Health, Safety and Environment Coordinator
- Health, Safety, Environment and Quality Officer
- Senior Occupational Safety and Health Consultant
- Quality, Safety and Environment Systems Manager

Six of the respondents to the Industrial Foundation for Accident Prevention questionnaire described their position as a Safety Professional. In addition to including Safety in their employment title the following were included.

- 4 of these 6 people also included Quality
- 3 also included Environment, and
- 3 included Health

This research also included providing a research questionnaire to members of the Safety Institute of Australia.

Safety Institute of Australia (Western Australian Division) Members' survey responses

At an Executive Committee Meeting for the Safety Institute of Australia, Western Australian Division, the above questionnaire was further developed and asked the following.

1. Please write your employment position.
2. Please write why you chose a career as a safety professional.
3. List below the skills that you think are required to work as an effective safety professional.
4. Please describe what motivates you to want to learn about occupational safety and health.

This questionnaire was then emailed to Western Australian Division Safety Institute of Australia members who had provided the Secretary with their email address. There were 52 responses to this emailed questionnaire.

Reasons for choosing a career as a safety professional

The questionnaire responses revealed the following reasons that these people chose a career as a Safety Professional.

Enjoy doing occupational safety and health work: (19 responses)

- I was an Occupational Safety and Health Representative and enjoyed making workplace safer, interested in safety in all aspects not just at work. Care for other human beings. As I am a nurse I have seen senseless injuries that could be prevented.
- Great variety in the position and nature of daily work, possible to work for yourself in a very flexible manner, interest in health and working in a "people oriented" role.
- For many years I worked as a manager for a leading supermarket chain. Somehow I never really got a lot of satisfaction from achieving sales budgets, wage budgets and bottom line targets and came to the point that I felt there must be something more "important" that I could be doing. For many years I was involved with the health and safety committee and I started to pursue more information in this field. Once I started with my Certificate IV in occupational safety and health in New South Wales and was given the opportunity to work as a health and safety advisor for the same supermarket chain, I realized that what I was now doing could make a difference to individuals and the organization. I also for the first time in my life really loved my work. That was 10 years ago and since then there has been no looking back.
- I initially studied safety and health at TAFE in 1992 because it seemed like a new and exciting profession with a lot of variety. I worked in the Retail and Construction industries managing the safety and health and found the role challenging and exciting, which motivated me to gain a Bachelor of Science in Occupational Health and Safety.
- Prior to leaving the Australian Navy, I reviewed my employment options and what I enjoyed doing, Safety and Health gave me the best options for long term employment and would hold my interests and provide me with a life style that I was seeking. Having been involved in safety for many years I believed that this would be an ideal career to follow.
- I began working in the mining industry back in 1986 working in an open pit as a Plant

Operator and continued to gain experience in the management of day to day mining operations. I collected over time many competency certificates relating to the safe and effective running of open pit mines and to take that further, required me to undertake university studies, that being engineering (which required full time study) or possible safety and health (available external and part time). With my practical experience in mining I choose safety and enrolled in studies at Edith Cowan University and obtained a "Executive certificate in Health and Safety" and during my final year of external studies was offered a position as a Safety Manager for an underground mine in the Kimberley. I found that my practical experience was vital in securing this position and from there have continued to enjoy the opportunity to improve safety management to industry.

- I was working as a manager. I thought that managers needed to know something about occupational safety and health so I completed tertiary qualifications in occupational safety and health. I found that I preferred preventing people from becoming sick or injured to having to care for them when they had ill health effects from their work. When the organization that I was working at, was sold I chose to work as a Safety Professional as this was the part of my work that I liked most.
- I enjoy the challenges of working with employees and sub contractors to improve the health and safety and reduce injuries to personnel and damage to plant and equipment.
- Because I truly believe the accomplishment of an injury free workplace is achievable and should be a basic right for all individuals at work. It is also very rewarding and satisfying work.
- Offers an opportunity to work with and for people without the bottom line being the main consideration.
- Interest was sparked from studies on trauma and disease; looking at vectors and causative agents.
- Provides a diverse selection of industries to work in. A Safety professionals' role is multifaceted and not mundane. I enjoy working with people and problem solving. Expanded upon a health science degree.
- Working as an Occupational Safety and Health Representative gave me an interest in continuing to learn about occupational safety and health and to choose this as a career. I now work as an Occupational Safety and Health Professional because I enjoy the challenge of making the workplace, work processes and the actions of people safe so that people do not get injured, become ill

due to work related causes or be killed at work. I like caring for people.

- Keen interest in such an ever moving and changing field.
- Personal interest in the area and challenge it provides.
- Interesting way to apply science background in an applied manner. Variety of work.
- I firmly believe in safety in the workplace and in all the workforce safety.
- Interested in Health & Safety
- When working as a manager occupational safety and health was the part of my work that I enjoyed the most.

Felt I could make a difference: (17 responses)

- My career has focused heavily on treating injury and illness 'after the event', with most of these events being preventable. I now wish to contribute to prevention rather than cure / treatment.
- I was working at a Mine in an administrative capacity in the Occupational Safety and Health area at the time of the fatality at the mine. The effect of the fatality on myself, my work colleagues and Argyle employees was profound. Twelve months later I was on site for the memorial service and I wanted to do something so that another young woman would not be widowed and any other children not have a father. I developed an interest in OSH whilst at Argyle especially in the formation of a 'culture'. Between 'jobs' I was on the legal team as a temp at Boodarie and that experience 'pushed' me further into choosing to do more. I was asked to work at the Dept of Water as Safety Coordinator as a result of earlier contract work and have since completed a Graduate Certificate in Occupational Safety and Health and am trying to develop a Safety Management System and a risk aware culture. I find in my work that 'lip service' is paid by upper management and the 'shop floor' staff are complacent because there have been no serious recorded incidents, but I know how quickly one can happen and how serious it can be, as well as how devastating to a relative small workforce where everyone knows each other.
- After working in construction and engineering sector for a period I came to view, that more could be done to protect employees. One of my business partners was fatally injured on a mine site. This crystallized my focus on Health, Safety and Environment Services.
- My first real interest was during my service in the Royal Australian Navy when teaching Damage Control and Fire Fighting. Although not a Safety Professional I have maintained my association with the Institute because in my employment as a Dockmaster

I am involved in lifting, lowering and moving large loads during the launch and docking of ships. The largest of these loads has been 16,000 tons. When handling loads of this size there is the potential for problems if one is not aware of all the possible things that can go wrong, maintaining my membership has allowed me to keep abreast of improvements within the world of safety and has helped to keep me focused. With over 1000 ship movements to my name and not one accident, my safety affiliation has worked. I am currently in the USA with my company as the Construction Manager of new facilities within the shipyard and in 15 months we have not had one lost time injury on any of the projects completed to date. As a Safety Amateur I think I have done well since joining the Institute 23 years ago.

- My interest in a safety career began during my time in mines rescue (1986-1993). Further development of my mining career saw me working as an underground supervisor for 7 years (1995 -2001). In this role you are responsible for the safety of the crew, at one point that would be as high as 34 people on shift, in a large mine. An opportunity came up to take retrenchment which I took, and after a break went 'back to school'. I had talked about this for some time and felt I could make a difference. I started with a Cert IV in occupational safety and health and then moved to Diploma (both with Curtin VTEC in Kalgoorlie) and then completed a Bachelor of Science (Occupational Health and Safety) at Victoria University (Graduated Nov 2007). I also believe that by having a practical background as well as formal education I can get through to people by having credibility. To me moving from the workforce supervision to safety was a natural progression.
- I did this because of the skills I already had in the offshore industry, lead me to the realization that the safety knowledge I could provide fellow workers, if I was in such a position, would lead to less injuries. The benefits I saw in opportunities to be part of a growth industry where advancement was possible, recognition of achievements valued & financial benefits growing also was a major drawcard in moving to this field. The rewards for professional people both in physical & mental sense was a major motivational force.
- Career Perspective - I studied Electrical Engineering at my bachelor degree and later completed post graduate studies in oil and gas engineering and also obtained a Diploma in Occupational Health and Safety. My joy is to use all acquired skills and

knowledge to create a safe workplace where workers can be confident that their health and safety is important as completing a job. I feel fulfilled that I am actually reducing patients going to see Medical Practitioner for work related incident. *Personal Perspective* - I did a study on myself to identify my character and habit traits and I discovered that I am compassionate, a problem solver, I believe in meeting appropriate ethical standards, likes to lead others, attentive to details and supportive in making sure that tasks are completed in an effective and efficient way.

- After being witness to a high number of incidents over a 15 year period, I was in a position to be exposed to events directly before an incident occurred and directly after. From this it became evident that all incidents fit into 1 of 4 categories, an understanding of these provides the ability to see the ingredients required for an incident to occur and therefore prevent. Preventing people from getting hurt is a worthwhile career.
- Because I would like to be a part of assisting in the prevention of accidents and ill health at work. I become agitated whenever I see unsafe actions that might result in personal injury or harm. Particularly if it is needless.
- To make people aware of their rights and obligations in the workplace and protect the younger workers by creating interest and awareness of how safety can be of a benefit in the workplace.
- Opportunity to expand my business, more value to existing client base, most of all I believe people have the right to go home in the same or better condition after a day's work.
- To better the knowledge of all in the field of safety and health in the workplace. To assist in ensuring all return to their homes and families safe and well.
- I am passionate about providing a safe working environment for employees after witnessing horrific incidents during service in the military.
- Passionate about prevention and safety. Valuing people's life and the impact on communities.
- To help people stay safe and go home to their families. To educate people is hazard identification and potential harm their working environment may pose.
- I was appalled at the low regard for safety processes in the United Kingdom in the 70s and then the Robens report came out which introduced the notion of 'Duty Of Care' into safety, which inspired me to get more involved in occupational safety and health.
- I have developed a career as a safety professional after a lengthy period as an

engineer within the Telstra Commission. It was there that I realized just how important it was to ensure that people went home safe to their families every night. Also now that I have four children I am concerned for their safety and that of their families. If a loved one or work colleague is seriously injured it upsets me greatly and I enjoy trying to make sure that this doesn't happen. It is also easier to make others understand safety issues than it was as an engineer to make them understand or agree to technical issues and problems.

Part of my work: (8 responses)

- Natural extension of work I was doing in apprentice training and Quality Assurance.
- Was a career Police Officer for 33 years and a Union Director for nine years with occupational safety and health as my portfolio. The union required a person able to fit the role with rostering and police experience. I have since gained a diploma in occupational health and safety.
- Necessity in the chemical industry in which I started my working life.
- To assist in improving safety within the workshop environment I was working in at the time.
- Natural progression from my then role as an occupational health manager, and because business saw more "value" in safety than they did in health.
- Growing requirement in the business. To provide support and advice to Senior Management.
- Chose to study Health & Safety to facilitate my duties and responsibilities in the mining industry.
- I have operations background but at Onesteel they recognize Safety & Operations as dual role.

Career advancement (6 responses)

- I was very interested in safety when in the Armed Forces, had attended many safety courses, federal and state then appointed to the Safety Officers job in an Army Construction Squadron. Continued my interest as an Occupational Safety and Health Representative then formalize my knowledge in safety by studying for Diploma and Degree in occupational safety and health. I have always thought this interest would be a good base for a professional career, which it has been.
- Having reached my full potential in Quality and Environment management fields, I needed to be challenged in other fields. Working with integrated management systems for a number of years, health and safety management was a logical choice to pursue as it was a growing field with a skills shortage. Health and safety principles could

be applied to any workplace and it was a field of study I wanted to learn more about and make a difference to prevent injury and illness. Working for larger companies in Western Australia whose existing occupational health and safety executive management were passionate about health and safety influenced my career path. I chose to learn more about health and safety and complete further studies to gain professional qualifications – I'll complete my Masters in Occupational Health and Safety by June-2008.

- I have been working in the mining industry for 16 years and looked for a career I could pursue whilst still working underground. Safety was an area I could work my way into with some external qualifications studied. My experience as a miner also gave me some of the experience required to be a safety professional as you had an understanding of the process. Through studying and practicing safety in the mining industry also gave you an opportunity to branch out into the construction and manufacturing field at a later date
- Progressed in my career from working as a Mining Engineer to a Mines Inspector to working at the Industrial Foundation for Accident Prevention (IFAP). It was an opportunity to get a Masters in Positive Performance Indicators at the New South Wales University.
- I wanted to use my technical expertise in a different role.
- I did not want to be working "on the tools" when I was 50 years old. The prospect of being able to apply technical skills I had acquired to ensure the welfare of other appealed to me deep down.

No motivation to work in occupational safety and health: (2 responses)

- Fell into it
- Was talked into it by a well-meaning friend

In this section every individual provided a different response, but it was possible to combine these responses into main themes. The most common answer given as the reason for choosing a career as a safety professional was because the person enjoyed doing this work (19 responses). The people who were most passionate about their work were the people who strongly believed that their work would make a difference to people's life (17 responses). These two categories could have been one as there were common themes with both groups enjoying their work and wanting to make a difference. The third most common reason given for working as a Safety professional was that occupational safety and health was just a part of their work (8 responses). These people did not seem to have

the same passion and enjoyment of their work that was evident in the first two groups of respondents. The fourth most common answer was career advancement. This group of respondents chose to work as Safety Professionals after having worked in other employment positions. There were two respondents who reported no motivation to work as Safety Professionals, but were working in this employment position.

Safety Professionals have an important role in a workplace as they provide advice on how to keep everyone who comes on to the work site, or who can be affected by work activities safe. The following are skills that Safety Professionals state are required to be able to do their work effectively.

Skills required to work as an effective safety professional

The questionnaire answers provided the following answers to the question "List the skills that you think are required to work as an effective safety professional". All respondents provided a list of skills that were required. These skills were recorded as follows.

Management skills: (118 responses)

- Up to date knowledge of, understanding of and application of occupational safety and health legislation, Codes of Practice, relevant standards, government policies and best practice for occupational safety and health. (9)
- Negotiation skills are essential (8)
- Leadership (Strategic thinker), coaching and mentoring skills
- Good interpersonal skills to be able to deal effectively with people. (6)
- Change management skills (4)
- Be passionate and committed (owner not a renter) (3)
- Diplomacy skills (3)
- Facilitation, skills internal, external (2)
- Marketing and sales skills (2)
- Be people rather than process oriented (2)
- An open mind – you cannot judge people or a situation until you have all the data. (2)
- Conflict resolution skills (2)
- Business planning skills (2)
- Ability to liaise and deal with all levels within & outside a company, various cultures & types of personalities (2)
- Knowledge of behavioral based safety processes and able to motivate and inspire a workforce to implement this strategy (2)
- Promote a culture of the employer and employees caring for everyone who comes onto the business premises.
- Involve product and goods suppliers in improving occupational safety and health for the workplace and work products.
- A confident and persistent approach. Don't be easily put off if you believe that

something is wrong.

- Skill in identifying opportunities to show how safety can improve the organizations business.
- Skill in turning ideas into actions.
- Ability to prioritize.
- Ability to see the other person's point of view.
- Ability to be non judgemental or biased.
- Ability to be a mediator.
- Ability to be compassionate.
- Ability to consult with professionals.
- Compromise, conciliation and collaboration skills.
- The skill to keep things as simple as possible.
- Ability to develop courses of action that are not onerous and therefore more likely to be followed; they still have to be safe, but making it hard will see it ignored and culture will develop the alternative method.
- Ability to differentiate between 'real world' and 'ideal world.'
- Persistence – you have to be able to put recommendations and suggestions forward several times, at times in several ways for them to be accepted.
- Discipline skills for self and others.
- Team player with good communication and behavior skills.
- Able to counsel and advise/ coach team.
- The right attitude and the ability and willingness to learn.
- An understanding of feeling safe in the work place.
- Competency in allocated position.
- Well informed.
- Good judgment based on alternative solutions.
- Decisive – at times you need to make a considered decision in a minimum of time.
- Decisiveness in emergencies.
- Understanding of Emergency Response
- Lateral thinking skills
- Skill to be flexible and adaptable in any situations
- Skill in being a good role model
- Understanding of the work that is being done in the workplace.
- Practical skills in planning – There still is not (in some organizations) occupational safety and health input in project design relating to contraction and work methods. There should be input from safety professionals in design and contraction methodology (just not from engineers)
- Attention to detail
- Skill to deliver service excellence to internal and external clients
- Verbal reporting skills
- Business acumen skills
- Solid knowledge of business management
- Knowing where to look for answers

- Having a calm rational approach to safety
- Think 'Big Picture' – look at leading practices outside of Australia
- Understanding of Environmental requirements
- Strategic planning skills
- Goal setting skills
- Engaging skills
- Good time management skills
- Good administrative skills
- Skills to provide support and advice to Senior Management
- Project management skills
- Contractor management skills
- System management (AS 4801) skills
- Ability to think systematically and systemically
- The ability to quickly understand a basic overview of the work processes involved without needing to become an expert. You need to be able to see the inherent dangers or at least know how to get others to identify them.
- Follow up on incidents and concerns of employers and employees
- Skills in developing practical solutions
- Skills in balancing cost, risk and care for people
- Financial skills (budgeting)
- People skills including interpersonal
- Behavioral Skills – Practical skills of identifying behavioral performance and the ability to communicate this back to individual's whether positive or negative.
- Committee meeting skills
- Confidence to chair safety committees and present toolbox talks
- A desire to see your work colleagues go home as healthy as they came to work.
- Workers compensation management skills.

Ergonomic Skills: (68 responses)

- *Personal communication skills (written, verbal and non verbal) – The ability to communicate and develop a rapport with company shareholders, employers, employees, employee representatives and personnel at all levels of the business (board members to workers) on positive and negative aspects of safety in the workplace and have the skill to articulate new ideas to a wide varied audience. (34)*
- Understanding of people, what motivates them and the ability to persuade and influence people. (6)
- Problem solving skills (6)
- Analytical & critical thinking, outside the box (5)
- The skill to listen and use that information (5)
- The list of skills required is endless, and although people want to work in a safe environment they don't want it pushed upon them, it is best if the information is

available and people are given the opportunity to find the solution to a safe workplace themselves. An effective Safety Professional will be someone that has the ability to motivate his workforce to achieve that. (5)

- Self motivation (2)
- Empathy (2)
- Understand people with range of attitudes, background, risk profile and managing this team.
- Understanding behavior, society and culture
- Intuitive understanding of people
- Relationship building skills
- Use physical, social, cognitive and environmental ergonomic principles effectively.

Research and writing skills: (33 responses)

- Good writing skills – to be able to develop and formulate reports, safe work procedures and occupational safety and health related documents of all kinds. (5)
- Good analytical skills (5)
- Auditing for improvement and not just compliance (4)
- Investigative and interview skills (3)
- Ability to use a computer and manage spread sheets for data collection (3)
- Ability to research and network to keep up to date with issues (2)
- Observation skills (2)
- Research skills – one cannot remember everything but one needs to know where to go to get information.
- Ability to research specific areas of concern
- Research skills to develop best practice
- The ability to research solutions
- Photographic ability
- Drafting skills to assist incident investigation
- Able to use a computer to capture incident data and use advanced excel and visio to present the information in high quality charts/diagrams.
- Ability to produce and use power point presentations
- Conduct research in the workplace, publicize the results and use the research findings of the research to improve occupational safety, health, business profits and business continuity.

Technical skills: (24 responses)

- Good understanding and knowledge of safety principles and techniques. Experience helps greatly. (5)
- Engineering skills (2)
- You need hands on knowledge and experience of the work/systems of your workplace. (2)
- Identify hazards, assess the risk of hazards causing harm and control this risk so that hazards do not cause harm. (2)

- Sound capability to imagine consequences and their mitigation/amelioration. (2)
- Occupational safety, health and quality improvement management skills. (2)
- Safety technical knowledge and how to apply this in the workplace.
- A clear understanding of what is reasonable practical for specific industries.
- Understanding of the type of business you are in (Mining, construction etc)
- Construction skills – Knowledge of practical construction methods (gained from work experience)
- Interested in application of Physics
- Solid understanding of working concepts (physics, chemistry, human biology)
- Solid understanding of failure mechanisms biological, human and mechanical
- Knowledge of the accident incident process and able to use root cause analysis to determine what corrective actions are required.
- Recognition that in the field things are not as cut and dried as they are from the office view.

Training skills: (5 responses)

- Ability to deliver training and induction sessions (5)

Occupational hygiene skills: (4 responses)

- Use occupational hygiene equipment, read the results and make the work environment safe
- Ability to conduct noise monitoring and be able to capture and interpret the data
- Able to conduct air sampling and water quality sampling
- Understanding of Health & Hygiene issues

Personality: (15 responses)

This is not a skill, but questionnaire respondents recorded this information under skills required

- Confident (2)
- Assertive
- Resilience
- Pragmatic
- Approachable
- Open minded
- Patience coupled with perseverance
- Patient (very patient sometimes)
- Diligence
- Flexible
- Reliable
- Easy going personality
- Sense of humor
- Inquisitive and creative mind

Education: (14 responses)

This is not a skill, but questionnaire respondents recorded this information under skills required.

- The skills learned from obtaining some form of occupational safety and health

- qualification whether it be Certificate, Diploma, Advanced Diploma, or higher. (3)
- Tertiary Qualifications in Safety and training, plus good industry experience.
- Some sort of mechanical/engineering background education and experience is always helpful.
- I think that one needs education to support the practical skills and/or practical skills to support the educational training. I believe that a mix is the best path; however I also think that I personally spent too long 'at the coal face'.
- University level tertiary qualifications and exposure to different industries including hands on operator level over a number of years. You must be able to "walk the talk" and not just "talk the talk".
- Theoretical and on the job education.
- At least 5 years hands on work "at the coal face" as they say in the industry to which you are working as a safety professional, especially in heavy industries.
- Must be a practitioner in an occupational health and safety role for minimum of 12 months with a demonstrated continuous learning ethos, that includes developing mentors and seeking a minimum of Diploma accreditation; desired trait would include membership to a professional body associated to safety.
- Practical experience in the field that they are working in and degree qualifications.
- Extensive life experience
- Addition skills gained from formal education with practical registered training organizations (empirical not just academic).
- Have health background experience

These 52 respondents provided 281 responses to the question "List the skills that you think are required to work as an effective safety professional". The most commonly reported skill needed was good communication skills (65% of respondents [34]). For all other responses there was only a few people who provided the same answer showing how wide a range of skills were perceived to be required by these respondents. When looking at the main areas of expertise required the most common response was management skills (118 responses), followed by ergonomic expertise (68 responses), research and writing skills (33 responses), technical skills (24), training skills (5) and occupational hygiene skills (4 responses). Even though only skills were asked for in this question the respondents also provided information on the type of personality that they considered was needed to be a successful safety professional and their perception of the educational requirements a person must have to work in this employment position. It was noted that both practical experience in the field in which the person

was working (to understand the work processes) and tertiary education (to understand occupational safety and health specific knowledge) were considered to be required by these respondents.

Motivation to learn about occupational safety and health

There were three main themes that motivated Safety Professionals to want to learn about occupational safety and health. These themes were the need for knowledge to be able to do their work, self-motivation and their perceived need to improve occupational safety and health. The responses recorded under each of these headings were as follows.

Self-motivation: (25 responses)

- Self motivation and wanting to do the right thing by all, which includes the community. Most of all personal satisfaction and being true to the heart.
- Passionate about making a difference in employee's working lives
- I am a baby boomer (and don't want to retire), as such I have worked in workplaces where safety is of no account. Even in the 21st century I come across people my age who have an attitude of "the job is dangerous, get over it love" and "I have been doing this job for 20-40 years and nothing has ever happened". I want to learn more about the culture of a workforce to enable everyone to think about safety on and off the job and not become complacent. I am also intensely interested in the problems faced with an ageing workforce, and the programs etc that will have to be developed and implemented because of this. At my workplace, the workers compensation cases recently have all involved ageing workers and musculoskeletal injuries. How do I prevent more of this happening in a workforce that is 30% over 45!
- Self-motivated - wanting to reach my full potential in anything I do
- Life values and beliefs as a Christian.
- Health, Safety and Environment is my passion and I enjoy all aspects of it but you are constantly learning. I learn something new every day from all types of personnel and this encourages me because the one thing they have in common is the desire to go home in the same condition as they arrived. I believe to be successful in any business requires an organization to look after their employees and provide them with a safe working environment and HSE professionals are an important link in making this possible.
- Meeting various and disparate people and the challenge of getting ideas across to a wide range of audiences, with inbuilt prejudices. The challenge of making work

places safer

- Items in the news, story that one hears in the work place, new equipment. Often when coming across something that is new to you.
- The need and want to understand people and their reactions to different environments. The desire to be a useful resource to my 'customers'
- A prerequisite for the job since it is a life long learning experience. Kudos from having technical capability as well as practical knowledge
- I enjoy my role as a safety professional and to ensure you have the knowledge required to perform your role, studying at university gives you the opportunity to broaden your horizons, provides future promotional opportunities and hopefully one day the safety profession is recognized as a profession just like an engineer, lawyer, accountant, geologist etc., and requires personnel to conduct courses that require qualifications.
- Appreciation of both safe systems of work and behavior science
- I learn something new every day
- I am very selfish when it comes to safety and my greatest motivation is my Range of interesting subjects such as environmental, physiological, biological, economical etc.
- When I know that the knowledge to be gained will be useful and aid in achieving positive outcomes.
- The opportunity to learn skills and knowledge that can be utilized in the workplace and help me to be more effective in my efforts to reduce workplace / community injuries and illness.
- Genuine care for fellow human being & well being of humanity. (On a macro level) on a micro level to enhance my job function & knowledge.
- Improve my effectiveness in the outcomes I can achieve
- I'm good at it, I enjoy it, I get to work for myself from home and it provides me with an acceptable income.
- I continuously read all safety, health and environmental documentation to further my knowledge.
- I enjoy learning and like to keep up to date with best practice in occupational safety, health and environment management.
- Empathy towards my organizations employees and ensuring that I am always kept abreast of changes within the safety industry.
- Career advancement
- Interested in Health & Safety
- To be able to do my work effectively. I enjoy caring for people and like to be safe myself.

Desire to improve occupational safety and health: (22 responses)

- Poor application and understanding of health, safety and environment by a lot of leaders and managers.
- Occupational safety and health is dynamic in implementation, applicable across all industries, protects life, allows employees to reach and deliver their full potential and it adds to company bottom line goals.
- There is always something new to learn and be actively involved in, to ensure you are up to date with the necessary knowledge to provide valid and relevant advice. Any advice given must be able to withstand intense scrutiny.
- Prevent people from getting hurt, I have children and if changes are not made in working methods they have the potential to be part of the future incident statistics.
- Being able to prevent injuries and sustain a healthy existence for all our employees and in return gaining the trust and respect of employees, managers, co-workers and my peers.
- Innovative approaches toward injury prevention and management particularly cultural programs and the ever changing technological advancements. I am not a fan of change for change sake or of the ever increasing new HSE models that keep inundating the profession. Often the best approaches are the simple ones and not full of complex procedures or processes.
- Genuine belief in the possibility of achieving Zero Harm. Belief in the right of everybody to return home without illness or injury.
- There is and always will be new risks being identified in our workplaces and the challenge is to ensure that company's management and employees understand these risks.
- New and quickly expanding area for sworn police in WA. Involvement with National harmonization laws.
- Looking after my work mates as if they are family.
- Working in a high-risk industry which traditionally has not had a good safety record and demonstrating that best practices can be achieved with hard work and determination.
- In order to be able to do my job properly and effectively.
- I see too many OHS advisors that have no experience in the field that they are advising on, that make rash administrative decisions without consulting the people that are affected by those decisions. This has resulted in a workforce that has become complacent because there is too much reliance on procedures.
- The desire to effectively assist people in the workplace to see the benefits of working

safely and protect the younger workers because of inexperience and gaps in training and information that is available to them. My daughter was killed in a workplace accident when she was 18 years old.

- To reduce injury
- A desire to see your work colleagues go home as healthy as they came to work.
- I believe people have the right to go home in the same or better condition after a day's work.
- Much work yet to be done to increase awareness /attitudes in the workplace.
- To be good at my job and to help reduce accidents/health issues in the workplaces.
- Just the knowledge that you may be able to prevent even one workplace fatality or injury as well as the interest in the subject and the ever evolving face of safety.
- For understanding of how things work – interactions / interpolations / continuity.
- Qualifications are necessary for companies to show that by employing qualified professionals they are serious about safety within their organization (due-diligence).

Need for knowledge to be able to do my work: (14 responses)

- When I started my Cert IV it was a big step, I was 44 years of age and I had left school at 16, since then the only formal qualification I had gained was an 'Underground Supervisors Certificate of Competency'(in 1992). My tutor at the time then pushed me towards the Diploma in OHS which I did, and I thought I had it made for about a week until I realized that this was not enough. I started the OHS (post Grad) with ECU but it was not answering my needs and so I 'found' the Victoria University course through a friend (at this point I was actively supported by my General Manager). As I have learned more I realise that there is more to learn. The only way to be truly effective is by being your best and to me this means a combination of both the practical and educational.
- Care & Continuous improvement in worksite safety is needed, therefore best practices require constant updating & refreshing of skills. Career progression is a significant factor. Competency in the field is expected and required by management and clients.
- So I can do my job more effectively and really make a difference to the safety of my work place and the community.
- Interest in maximizing knowledge in order to cope with the scope and variety of work facing health professionals at work every day.
- The need to keep myself informed and up to date with current issues and needs with regard helping people to improve the safety in their work place.

- The Health Safety and Environmental field is evolving continually and without the motivation to continually learn and adapt you become obsolete very quickly.
- Desire to be better informed; ability to recognize when professional competence is required; knowing where to look or who to ask. Preservation of members health and therefore business capability and reputation.
- I believe my motivation to learn comes from my need to be able to answer as many questions and queries without having to research for an answer.
- Career of choice, to advance further requires knowledge and personal development.
- The constantly changing nature of OS&H within any given environment, and how that impacts on the legislative and organizational frame work in which the safety professional has to work to keep Due Diligence at the fore front of the organizational function.
- The need to stay ahead of progressive changes to the industry and current practices.
- The law is continually changing to match the new products/processes and attitudes that are continually introduced into the workplace, an OSH professional must keep ahead of this by staying informed.
- To be successful you must be aware of current issues and safety techniques.
- It is also a very interesting area that involves a lot of interaction with people and how they behave (e.g. injury management) and I've got to try to be one step ahead of them (e.g. techniques, legal issues etc).

Self motivation (25 responses) was the most common motivator for the survey respondents to learn more about occupational safety and health. The next most common response was that respondents learnt because they wanted to improve occupational safety and health (22 responses). The remaining respondents continued to learn because they wanted the knowledge to be able to do their work. In summary all survey respondents were motivated to continuously learn about occupational safety and health practice's to be effective in their employment positions.

Employment position:

Forty of the respondents stated that they were Safety Professionals.

- 27 of these 40 also included Health in their employment title
- 15 of these 40 also included Environment in their employment title
- 5 of the 40 included Quality Management in their employment title
- 2 included Training
- 1 included Paramedic
- 1 included Workers Compensation Manager

The remaining respondents documented their

employment title as follows.

- Dockmaster/Construction Manager
- Drilling and Logistics Coordinator
- Laboratory Technical Officer
- Manager Corporate Services
- National Compliance and Training Manager
- Principal Professional Workplace Trainer
- Principal Scientific Officer/Inspector
- Project Officer
- Registered Nurse
- Systems Consultant
- Training & Development Manager Middle East Asia
- Vocational Rehabilitation Consultant/ Occupational Health Consultant

The most common employment position for the respondents was that of a Safety Professional (77%). However, as well as being responsible for occupational safety some of these people had the responsibility for occupational health, environmental management, quality management, training and workers compensation. The remaining 12 respondents worked in a variety of employment positions.

Safety Institute of Australia members in other Australian States were also invited to complete this research questionnaire.

Responses from Safety Institute of Australia Members to a newsletter survey request

The research questionnaire was published in Safety Week (2008, June 16, page 5). A problem with this method of gaining subjects was that the hyper email address link in the newsletter missed part of the email address to send the survey responses to. However the correct email address to send the survey responses to was at the bottom of the survey. There were 21 responses received to this published questionnaire. These responses came from Safety Institute Members Australia wide. This questionnaire was the same as the one emailed to Western Australian Safety Institute Members. These respondents provided the following answers to the questions asked.

Reasons for choosing a career as a safety professional

The following were the reasons given for choosing a career as a safety professional.

Offered a career change: (8 responses)

- I heard it was good money. I was already an educator. I needed a career change. A friend suggested it was good, and that he would work for me. I knew I could make a go of it because of my previous experience.
- I was previously working in the electrical contracting area as I had been involved with the safety side of the business and was looking for a career change. With government legislative changes in the

electrical industry happening I made the full time move to safety and set up Safetylec Management Solutions.

- I worked for many years as a first aid officer in construction and saw the outcome of injury, saw the lack of care of some employers and was injured myself at work. I also began to get a little older and wiser while considering my career prospects I developed a plan 10 years ago to achieve success as a safety professional while a plant operator/general hand at the reclamation work site on Fisherman's Island for the Port of Brisbane Corp.
- Gradual move to it from extensive volunteer involvements in the emergency services and as an elected Health and Safety Representative.
- In 2001 I was working as a Laboratory Manager for a state government research facility. I had OHS duties on my list and I was completing a Diploma in OHS. When the government department split I was offered a choice of a facility management position or an OHS position, I chose the OHS position.
- It was not chosen as a career to start with (I guess a failure of the profession is that people don't know of it as a potential choice). I started working life as a lab rat working with chemicals and through this I evolved into a Safety Professional and it grew into a passion. I enjoy the role as it exposes you to all levels in the company; from front line staff right up to board level management. It is a career that you can positively make a difference in peoples lives and influences a company's standing in the community. Though you never really know, at the end of the day it motivates me to think I may have helped someone avoid a serious injury today. If you think about it, in the hierarchy of controls, a safety professional is more valuable to the community than a surgeon!
- I started out as a technician in a research laboratory many years ago. As part of my diploma in medical science, one aspect was occupational health and safety. This field interested me greatly. Safety in the workplace in 1993 was there, but in a very shallow way. I followed up with my manager and became the First Aid Officer, health and safety representative and committee member. I eventually completed studies part time while working full time in OHS (undergrad diploma). On completion of that, the same manager showed me a job in the Risk Management Office as an adviser for EHS (Environment, Health and Safety). I worked for 2 years in the RMO and gained a great deal of understanding and skill while completing a grad dip in OHS. A role

within the Faculty of Medicine took me back to a more research intensive environment where my interests lie.

- Originally fell into it as a consequence of being promoted into a Teaching Position in the Air Force. I had previously been involved in aviation engineering with significant safety focus. This new position involved a heavy component as Safety Subject Master for the School of Management. Subsequently completed Grad Dip of OHS and a Masters of OHS (CQU) (My thesis examined Hep A immunization risks in child care workers in a regional community) as well as a number of Diplomas in complimentary subject areas.

Enjoy doing occupational safety and health work: (7 responses)

- While I started later than most (mid 30's) I had a solid grounding in aviation safety and had two family members badly disabled due to occupational incidents (one that eventually took the life of my father (mesothelioma) and began to see that there was a noble side (altruistic as well as providing a good living) to the work in OHS. I was exposed to some people in SIA (Neville Betts, Peter Nuzum, Rob Sweeting, Neville Garratt, Geoff Dell, etc.) whom I greatly respected and through whom I met other safety professionals who had a great influence on the direction of my working career. So in short, a noble career, one that, if you are good at what you do, can generate good income and more importantly, a good feeling about what you do and who you are.
- Felt that it was aligned with my own sense of values. It also feels like it's a very current area to work in as lots of changes are taking place that keeps it exciting.
- It evolved from the Quality and HR portions of my previous roles. Also gave me a new focus with resultant opportunity to make a difference, learn new skills and be passionate about my job.
- After falling into a safety role by accident 7 years ago, I developed a passion for it. The work is so varied, something different everyday, and I'd like to think I can make a difference. If what I do saves 1 person from seriously injuring themselves then I'm happy.
- I have always been interested in health, having worked previously as a medical scientist in pathology for 30 years. I made the change to OHS as a step towards more proactive health & safety management. I enjoy working with people and have had an active role in workers compensation and return to work programs.
- Studied a Bachelor of Science (Major in Safety and Anatomy) at UNSW - enjoyed the safety subjects, did an internship at Caltex Oil Refinery - loved getting dirty and

"helping the people."

- Industry experience in several industries including Defence & Steel, and I wanted my employment time to be for me.

Felt that I could make a difference: (6 responses)

- To reduce the number of injuries at work.
- Was spending time treating injuries that should not have happened. Prefer a preventative approach to injury management and enjoy training.
- I chose this career as I believe strongly that no one should not go home from work at the end of the day due to injury or death. I felt that I could contribute to ensure that people were safe at my workplace so I was helping in a small way.
- I am a firm believer in that every person has a right to feel safe at work. No worker and employer should knowingly place a person's health safety and welfare at risk in order to maintain or improve profit margins. People should work to live and not live to work. Safety must come first.
- I chose a career as a safety professional because, I care about the well being for my current/future work colleagues in the industry. Also I have seen a lot of injuries to workers and then subsequently economic disadvantages to their families, I aim to reduce these holistic events to families.
- An interest in human behavior and accidents following work investigation workplace incidents and accidents in a hospital setting. OH&S is very black and white; you either comply or you don't, and if not, why not? What can we do to change this? The OH&S Professional is making a difference to safety and people's lives, that's why I do it.

In this section the main themes identified were that people became safety professionals as part of a career change (top response) or because they enjoyed doing occupational safety and health work or because they thought that they could make a difference to people's life by making the workplace a safer, healthier place to be. The second two themes were noted also in the Western Australian survey responses as the top two responses.

Skills required to work as an effective safety professional

The questionnaire respondents listed the following skills as essential for safety professionals to have.

Management skills: (35 responses)

- Knowledge of occupational health, safety and workers compensation legislation. (8)
- Change management skills. Willing to accept and drive change (3)
- Ability to allow subject matter experts give the information and simply facilitate. (2)

- Skill to make the workplace and work processes safe and practical (2)
- Well developed interpersonal, negotiating, engaging and people management skills. (2)
- Influencing skills as you need to convince people and that's not always going to be easy.
- Organizational behavior / management skills
- Business management skills
- Skills to use Cost Benefit Analysis models with strong internal financial data that will make their measures of performance improve.
- Budget control skills
- Ability to use and/or understand common business models e.g. Financial, SWOT, GAP Analysis, Market Plans, Stock Management, Training Need Analysis and Worker's Compensation systems.
- Occupational safety and health management system knowledge.
- Knowing how to implement a good occupational safety and health management system is a must and also knowing what a good occupational safety and health management system should contain is important. How to assess an agency/workplace to ensure the system is appropriate and conducting risk assessments, implementing controls are also important.
- A realistic understanding of the environment you are working in.
- Excellent skills in simplifying and helping line management implement occupational safety and health management practices.
- Active hands on approach with workers
- Customer Service skills
- Relationship building skills
- Facilitation skills
- Team skills
- People management skills
- A vested interest
- Knowledge of what networks are available to tap into

Ergonomic skills: (23 responses)

- *Communication skills – need to be excellent – both written and verbal for all levels of the internal and external stakeholder groups. It doesn't matter what you do if you don't communicate it well you can't address the needs of the audience you're targeting.* (9)
- Lateral thinking and problem solving skills (4)
- Able to listen and understand others points of view (2)
- Good rapport with people (2)
- Ability to empathize with workers (2)
- Use of initiative
- Ability to make decisions and stick to them
- Good liaison skills with management and senior executives
- Ability to be firm when right without upsetting people

- Logical thought process that enables you to see the issues effecting a company or client, regardless of the brief before you (some companies are really not aware of the bigger issues that are lurking, ready to pounce and decimate their workers and livelihood).

Research, writing and computer use skills: (14 responses)

- Computer and data base skills (i.e. word, power point, access data base, excel) (3)
- Excellent research skills to establish facts, what already exists (it is more efficient to edit that create) and what works. (2)
- Auditing skills. (2)
- Ability to analyze – to be able to question what's told to you and ask additional questions to find holes. (2)
- Ability to be a "detective" to discover why, when events may have happened
- Incident investigation skills
- Scientific approach – not all solutions are readily apparent nor does one tool fit all.
- Ability to reconfigure an occupational safety and health issue into a format/style of language that will drive change for all stakeholders, e.g. whenever possible don't use "wordy" occupational safety and health style language for operationally focused managers.
- Report "writing" skills before legal knowledge

Technical skills: (7 responses)

- Hazard identification, risk assessment and control strategies / interventions. (4)
- Skills to be across workplace issues such as chemicals, hazardous substances, poisons, radiation, biological safety, construction, lab design, furniture etc.
- Knowledgeable across a range of issues including safety management systems and a variety of hazards and their control measures.
- Technological skills applicable to the workplace environment.

Training skills: (3 responses)

- Training skills (i.e. Cert. IV in training and assessment)
- Training skills to promote training programs
- Workplace trainer

Learning skills: (2 responses)

- Always learning!
- Ability to learn constantly

Car driving skills: (1 response)

- Drivers licence

Personality: (17 responses)

- Patient (3)
- Courage to question and not be afraid to back down. It seems in this role that a lot of people will doubt whether things are really required or if they need to be done in a

particular way. It's about standing up and believing that what you're advising is right.

- Resilience and a positive "can do attitude"
- Professional behavior and appearance - particularly at management levels. It is important (although many would argue it shouldn't be) to behave and look the part. This provides the best first impression, validates the OHS knowledge, assists in peer acceptance and improves chances of successful adoption of desired outcome.
- Need to be confident in your ability able to both influence and challenge individuals to enable change and to immediately stop an evolution if it is unsafe.
- Have tenacity
- Be fair
- Be genuine in your beliefs and your motives (it shows)
- Hard working
- Have a love of people
- Be passionate
- Don't mind travel
- Ability to stand firm to both up and down pressures when you are right and legal
- The ability to relate to all levels of the work force, and the want and drive to do it alone, because quite often you will be doing it alone!
- Need to like people of all types.

Education: (11 responses)

- Relevant industry experience (in same case relevant industry experience. To determine the level of experience required employers should take into consideration the level of risk associated with the industry i.e. mines, tree work, working in confined spaces, handling storing transporting dangerous goods etc would require industry specific experience). (5)
- A safety professional should not only have a high level of competency in the application of occupational safety and health but also have demonstrated industry based competency skill, set for the industry that the individual is to apply the work health and safety advise to.
- You need both qualifications and experience to be a good operator.
- Formal tertiary qualifications
- Formal qualification other than a 5 day occupational safety and health course.
- Graduate Diploma (at least) in any field, then same in occupational safety and health and some type of industry / employment role that included occupational safety and health.
- Educated to have a general knowledge of occupational safety and health practice in a range of industries.

These 21 respondents provided 111 responses to the question "List the skills that you think

are required to work as a safety professional". Similarly the skill that received the highest response rate was communication (43% of respondents listed this skill). The main areas of expertise perceived as being required were again management skills (35 responses), followed by ergonomic skills (23 responses) and research, writing and computer use skills (14 responses), technical skills (7 responses) and training (3 responses). Where the Western Australian respondents included having occupational hygiene skills as being important none of these respondents included occupational hygiene as an important skill. Instead they included learning skills (2 respondents) and car driving skills (1 respondent).

Similar to the Western Australian respondents these safety professionals again listed the personality traits required and the educational requirements required to be a safety professional. For Western Australia the most important personality was having confidence. For Eastern Australia the highest response was for being patient. The most recorded educational requirement for eastern Australia was relevant industry experience. This was in contrast to Western Australia where there was more of a focus on tertiary qualifications to be a safety professional. However there was a mix of requiring both tertiary education and relevant work experiences by both groups.

Motivation to learn about occupational safety and health

There were four main reasons that motivated these people to continue to learn about occupational safety and health. The respondents replies were as follows.

Self motivation: (13 responses)

- An affection for occupational health and safety
- There are continual improvements in the way we apply OHS (and principles of OHS) in the workplace.
- It's a consistently evolving industry. I enjoy learning the different ways in which OHS is applied in varying industries. However, even in today's society there are some employers who will always put their profits before a workers health/safety. With everything we now know and the resources that are available to all employers (whether those employers are large or small) there is no excuse.
- I completed a Diploma of OHS in 2004 but did not feel confident that it was enough, so I embarked on a Grad. Dip of OHM at VIOSH (I should finish it this year). I believe that industry looks more favourably and pays more for OHS professionals with higher qualifications.
- It's forever changing and its so expansive

that you can learn new things every day, and I just love to learn.

- My motivation comes from knowing that I can make a difference
- Without a doubt it is all about keeping people safe.
- I learn something every day from people around me some things are good, some I don't choose to keep. I have gained a number of qualifications over the years and tried to do things that would compliment my existing skills make me a more valued employee and of course what I am interested in.
- What motivates me is, knowing that my skills in industry coupled with OH&S skills implemented in to the work force will aid in sending men and women home to their loved ones at the end of the day safe.
- It's great to think you make a difference and if I can learn better techniques perhaps I can make more of a difference.
- It is good for the world. Don't want people to suffer so their boss can live in a water front mansion. Need the money. Want to change more. Want more control over my work. Want more interesting work. Want to diversify. Want to be able to answer any questions. Want to be able to give professional advice. Need to work into my retirement age, and getting a good reputation means that I may be able to charge a lot to have an opinion.
- My desire to live in a World that will be ever increasingly burdened with environmental pressures, some of which reflect very closely to the lack of care for the safety of the people working & living in it. e.g. all portable power tools should not be allowed to be sold without all the AS safety PPE and instructions, the huge list in many languages telling me what not to do is a cop out. The reflective desire to stop more people from being injured un-necessarily because of ignorance on somebody's part. I had a mate die with Mesothelioma cancer. I also worked on the same equipment, and am still clear (why?). The love of learning about new techniques, skills, materials etc., that save the human from suffering.
- Several motivators for me, firstly, research: After completing the Grad Dip I went on to complete a Masters Degree - my thesis was on risk management methodology for pedestrian surfaces. I am contemplating a PhD - but know that with full time commitments to the faculty, intensive research would be difficult. I had my first paper published a month ago. Secondly knowledge: by knowing how to help staff and students with workplace issues I can make the workplace safer. Everyone needs someone to consult about problems. I want

to help where and how I can. Thirdly Innovation: there is always something new to learn, a better way of doing things, and more people to work with on new projects.

Need for knowledge to be able to do my work: (11 responses)

- It gives me a sense that I am helping people – even if it's only in a small way – through my work and that I'm contributing to organizations better understanding their environmental responsibilities.
- Knowledge gained will enhance skills to apply in workplaces
- Practical tips, tricks and solutions will be gained
- Discussing issues with people who have the same focus (as OHS is often a lonely position in the workplace i.e. other managers do not have similar knowledge bases to discuss issues or empathize).
- Reducing injuries
- Questions and feedback from course participants
- Skill development, peer recognition etc., but most of all to make a positive difference in peoples lives.
- To improve my knowledge and occupational safety and health management skills to reduce workplace injuries.
- My motivation is for the general safety and wellbeing of all workers. I also believe that safety should be integrated (in many organizations - including my own - it is an "extra", it should just be business as usual), I want to work towards this goal. I also believe that a good safety officer makes themselves redundant - sometimes there is a lot of work to do before you get there, but essentially that is what it should be.
- Why continue learning: Need to keep abreast of legislative changes; ever changing workplace dynamics in Australia; changing workforce demographics; technological change; impact of emerging technologies and attendant hazards and new hazards; search for innovative strategies and solutions that can be implemented on workplace problems/issues; lessons learnt; individual commitment to improving own capabilities as OHS professional, coach and mentor; yearning to be constantly challenged; drive for improved sources of job satisfaction; 'you are never too old to learn'.
- Reduce injuries at work and to create a safer workplace. Need to motivate companies to allocate more resources to occupational safety and health improvements.

Career advancement: (3 responses)

- Enhance career and reward prospects (3)

Desire to improve occupational safety and health: (2 responses)

- It is still an area in its infancy, much to learn and much to gain from applying systems and processes and I guess I would like to be one of the referenced people who can find a definitive system that can make a great impact on working lives, a simple program that can be applied in any industry, that can provide a robust risk management process that really works.
- Continuous improvement. To make occupational safety and health management simpler, but more effective. To reduce and eliminate risk.

For both Eastern and Western Australia the most common motivation to encourage respondents to want to learn about occupational safety and health was self motivation. Both groups also perceived learning about occupational safety and health as important to have the knowledge to be able to do their work effectively. The desire to learn more about occupational safety and health to improve this was stronger in Western Australia (42% of respondents stated that this was their motivation to learn) than in Eastern Australia (9%). Where career advancement was a reason in Western Australia for becoming a safety professional in Eastern Australia this was a motivation for learning about occupational safety and health for 14% of respondents.

Employment position

All 21 respondents stated that they were Safety Professionals.

- 17 of these 21 also included Health in their employment title
- 5 of the 21 also included Environment in their employment title
- 2 also included training in their employment title

All of the respondents included Safety Professional in their employment title. However as well as being responsible for occupational safety some of these people had the responsibility for health and / or environment and / or training.

World Safety Organization Conference participants' responses.

The same questionnaire that was completed by Safety Institute of Australia Members was also made available at the 21st World Safety Organization's International Environmental and Occupational Safety and Health Professional Development Conference that was held in June 2008 in the United States of America. This questionnaire was completed by 5 people. This is a very low response rate but is still worthwhile considering for the international perspective that these responses bring to this study. These respondents provided the following answers to the asked questions.

Reasons for choosing a career as a safety professional

The questionnaire responses revealed the following reasons that these people chose a career as a Safety Professional.

Background: (2 responses)

- Background in Law, Mechanical and Electrical Engineering and a Doctorate in Occupational safety and Health were all a perfect background for working as a safety professional for a large international company.
- I have a background as an OSHA Instructor and Auditor and as a DOE, DOD-VPP Instructor and Implementer. I work in a nuclear facility where safety is a critical value.

Felt I could make a difference: (2 responses)

- Saving lives and eliminating injuries and illnesses in the workplace is important to me.
- To employ means to educate people to better care for each other and to allow people to own their safety. To educate others to work, play and teach family members to avoid pain and loss of life.

Enjoy doing occupational safety and health work: (1 response)

- Safety solutions in action is what gives me a daily mission.

Two of the themes recorded were the same as those recorded by the Safety Institute of Australia respondents. The remaining theme (background) was different. Two of the respondents looked at using the skills that they had as fitting them to work as safety professionals and for this reason chose a career working to improve occupational safety.

Skills required to work as an effective safety professional

The questionnaire answers provided the following answers to the question "List the skills that you think are required to work as an effective safety professional". All respondents provided a list of skills that were required. These skills were recorded as follows.

Management skills: (16 responses)

- Safety management
- Occupational health management
- Quality and systems management skills
- Skilled in speaking 2 or 3 different languages
- Environmental management
- Good people skills
- Team player skills
- Good hazard recognition skills
- Legal skills
- Good subject matter knowledge
- Presentation skills
- Military training and skills

Evaluation

Collaboration
Convincing
Coaching

Ergonomic skills: (3 responses)

Ability to communicate to all levels of people.

(2)

Listening skills

Engineering skills: (1 response)

Engineering skills

Personality: (2 responses)

Be a person who cares for others

Know how to smile, but also how to be firm and fair

Ability to work long hours for low pay: (1 response)

Ability to work long hours for low pay

As for the Safety Institute of Australia Members the skill that received the highest response rate was communication (40%) and the main area of expertise was perceived as being management skills. Similar to the Safety Institute respondents these respondents also listed personality traits. One of the respondents at the conference perceived that a safety professional needed to have the ability to work long hours for low pay. In Australia working as an occupational safety professional was seen as a career advancement move, which was a different perception to this respondent.

Motivation to learn about occupational safety

and health

There were three main reasons that motivated these people to continue to learn about occupational safety and health. The respondents' replies were as follows.

Need for knowledge to be able to do my work: (3 responses)

- To keep up to date with technical advances and changes
- Ever changing technology and growing populations worldwide motivate me to learn languages, automation applications and ways to improve employee safety performance and practices.
- For my workplace I want to be able to continually reduce the total case incident rate, days away from work and employees on restricted or transferred work due to an occupational injury or illness. I also want to improve operational proficiency.

Self motivation: (1 response)

- I like people

Desire to improve occupational safety and health: (1 response)

- What motivates me to want to learn about occupational safety and health is that young children will be the leaders of tomorrow. We are a guide and path for them. I like to help others to learn, not to be just to be an enforcer. Occupational safety needs to be promoted as important at work as cost, quality and production is.

These replies were similar to those of the Safety Institute of Australia Members' replies.

Employment position

All 5 respondents stated that they were Safety Professionals. Four of the 5 respondents also included health in their employment title. One respondent also included Engineering, Training and Security in his employment title.

Summary of employment position title inclusions

Of the 72 respondents who included Safety in their employment title

- 51 of these 72 also included Health, (70.8%)
- 23 included environment, (32%)
- 9 included Quality, (12.5%)
- 5 included Training, (7%) and
- One person included Security, one person included Paramedic, one person included Engineer and one person included Workers Compensation Manager.

Some of these respondents included two or more of the above words in their employment title indicating that they had responsibility for more than just occupational safety as part of their work. This additional responsibility may date back to the times when the responsibility for occupational safety was added to a designated employee's other work duties, or it may be an expansion of the role of the Safety Professional into health care management, environmental management, quality management and other areas of work.

Calendar of Events

Giving Children a Voice: The Transforming role of the family in global society - World Congress, New Delhi
www.childparentrelation.com/index.html

January 3 - 7, 2009 (UN/NGO)

8th Session of the Working Group of Experts on People of African Descent, Geneva www.ohchr.org January 12 - 16, 2009 (UN/NGO)

Expert Group Meeting on the Implementation of Article 42 of the Declaration of the Rights of Indigenous Peoples, New York USA
www.un.org/esa/socdev/unpfil/en/EGM_A42.html January 14 - 16, 2009 (UN/NGO)

53rd Session of the Commission on the Status of Women, New York USA www.un.org/womenwatch/daw/csw53sess.htm March 2 - 13, 2009 (UN/NGO)

First International Conference on eGovernment and eGovernance - call for Papers, Ankara www.icegov.info (Abstracts and general enquiries may be forwarded to icegov@sobiad.org March 12 - 13, 2009 (UN/NGO)

29th International Congress on Occupational Health, 22-27 March 2009, Capetown, South Africa. URL: <http://www.icoh2009.co.za>

Safety Institute of Australia Conference; "Meeting Safety in Action" Conference 2009, March 31 - April 2, 2009. Melbourne Convention & Exhibition Centre: <http://www.sia.org.au/events/sia-conference-subsite>

87th General Session International Association for Dental Research, Miami, Florida, USA April 1 - 4, 2009. URL: <http://www.iadr.org>

Unite for Sight - 6th Annual Global Health and Development Conference, Yale University, New Haven www.uniteforsight.org/conference April 18 - 19, 2009 (UN/NGO)

10th Anniversary South African Travel Medicine Course, May 6 - 10, 2009, National Institute for Communicable Diseases, Johannesburg, South Africa email: Admin@sastm.org.za URL: <http://www.sastm.org.za>

11th Conference of the International Society of Travel Medicine, May 24 - 28, 2009. Budapest, Hungary. URL: <http://www.istm.org>

Building Community Centered Economies - Conference, Brisban www.cdconference.com.au June 17 - 20, 2009 (UN/NGO)

World Safety Organization 22nd International Conference, July 6 - 8, 2009, Sheraton Westport Hotel and Lakeside Chalets, St. Louis, Missouri USA URL: <http://www.worldsafety.org>

Queensland Safety Show 2009; Brisban Convention and Exhibition Center, June 16 - June 18, 2009

InterAction Forum 2009, 2009 International Aid+Trade, Arlington, Virginia and Washington, D.C. www.aidandtrade.org/view.overview July 7 - 9 and July 9 - 10, 2009 (UN/NGO)

2nd International Symposium on Academic Globalization: AG 2009, Orlando Florida - Call for Papers www.iis2009.org/wmsci/website/default.asp?vc=22 July 10 -13, 2009 (UN/NGO)

Children and the Law: International Approaches to Children and their Vulnerability - International Conference, Prato, Tuscany www.med.monash.edu.au/socialwork/conference09 September 7 -10, 2009 (UN/NGO)

38th World Congress on Military Medicine, October 4 - 9, 2009, Kuala Lumpur, Malaysia. URL: <http://www.wcmmk12009.com>

WSO Code of Ethics

Members of the WSO, by virtue of their acceptance of membership into the WSO, are bound to the following Code of Ethics regarding their activities associated with the WSO:

1. Members must be responsible for ethical and professional conduct in relationships with clients, employers, associates and public.
2. Members must be responsible for professional competence in performance of all their professional activities.
3. Members must be responsible for the protection of professional interest, reputation and good name of any deserving WSO member or member of other professional organization involved in safety or associated disciplines.
4. Members must be dedicated to professional development of new members in the safety profession and associated disciplines.
5. Members must be responsible for their complete sincerity in professional services in the world.
6. Members must be responsible for continuing improvement and development of professional competencies in safety and associated disciplines.
7. Members must be responsible for their professional efforts to support the WSO motto "Making Safety A Way Of Life...Worldwide".

Published by the: WSO World Management Center
106 W Young Suite F, PO Box 518
Warrensburg, Missouri, 64093 U.S.A.
Telephone (660) 747-3132 Fax (660) 747-2647
www.worldsafety.org
info@worldsafety.org
editorial_staff@worldsafety.org