



CNY SAFETY

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Central New York Chapter

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EXPLORING THE ELEMENTS OF RISK Part I – Hazard Identification and Evaluation

By Bob Andres, CSP, CMfgE, DABFE

There are two *basic* elements of risk: Hazard Severity and the Probability of Occurrence. This series of articles will explore all aspects of risk determination, as it is defined in domestic and international standards, in order to provide a more objective measure of this very subjective topic.

To preface this discussion, the subject of risk assessment has recently come to the forefront as a viable safety tool within the past ten years. Although we intuitively knew that our efforts in the safety arena should be focused where the risk is the highest, the only thing we had to work with were some books on the subject by Fred Manuele and other notable authors, and European Standards such as EN1050 and EN954, and domestic military standards. Work to produce a domestic standard didn't start until about ten years ago. The ANSI B11.TR3 committee brought in over seventy members and observers from all over the world, and this seemingly innocuous "technical reference document" spawned numerous standards and vastly changed interpretations of many old regulations. Now, if you look at safety magazines, conference presenta-

tions, and book releases, it is hard to find something that doesn't relate to "risk."

Risk, in the safety profession, is different than "risk management" in the insurance business, where the bottom-line "risk" is financial - or even "risk" in the military sense, where the concern has historically been: "the mission," "the equipment," and - almost last - personnel. In the safety profession, our #1 priority is to preserve "people," as the ASSE motto indicates - "Protecting people, property, and the environment since 1911".

In order to define risk for any given situation, we must first identify the hazard or hazards associated with it. As Manuele put it, "hazard identification is the most important step in the risk assessment process." In our research and development of ANSI B11.TR3, we found that virtually all standards dealing with risk see a hazard as being defined by *the severity of injury* that could logically and reasonably result from a person's exposure to it. We must also consider the consequence of the exposure of multiple persons. All hazards are not equal.

As part of the hazard identification process, Mike Taubitz of General Motors introduced the concept of "Task Analysis" and what became "task-based" hazard evaluation. The result is that we can more easily identify the hazards that concern us by analyzing the task or tasks being performed. Task analysis:

- Brings everyone into the risk assessment process
- Creates a receptive environment for addressing risk and implementing risk reduction
- Identifies many hazards that might otherwise be overlooked
- Helps eliminate extraneous hazards - those where is no exposure - from concern.

Looking for Hazards

Hazards are everywhere. It is important that you have open eyes - and an open mind - when considering what hazards and hazardous situations may exist. Page 2 shows a partial list for consideration, adapted from Annex A of ISO 14121.

In "rating" hazard severity, the domestic approach may be slightly different than the European approach because of

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Hazard Identification and Evaluation, cont

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our litigious environment. We must look at a long-term debilitating injury, or injuries to multiple persons, as being more “severe” than the death of a single person because of the effects upon quality of life and financial costs.

Hazard severity can be “rated” based upon:

- The effect of the injury upon quality of life
- Financial costs, including costs of potential litigation and worker compensation rates
- Losses to productivity

TR3 uses the following criteria:

Severity of Harm

Severity of harm addresses the degree of injury or illness that could occur. The degrees are based on extent of injury or illness (from death to no injury), and extent of treatment involved. The following is an example of severity levels:

Catastrophic - death or permanently disabling injury or illness (unable to return to work). *This also includes serious injury to several persons.*

Serious - severe debilitating injury or illness (able to return to work at some point)

Moderate - significant injury or illness requiring more than first aid (able to return to same job)

Minor - no injury or slight injury requiring no more than first aid (little or no lost work time)

Hazard severity is only half of the risk assessment equation. Next month, we will start exploring the “sub-elements” of Probability of injury - and the keys to reducing risk.

Robert Andres is CEO of Oshex Associates, Inc. and an independent consultant in the fields of noise and vibration control and machine/facility safety. He has served as administrator of the ASSE Engineering Division, president of the Central New York Chapter of ASSE, and chairman of the ANSI B11.TR3 sub-committee. He works from offices in Syracuse, NY and Naples, FL, and may be reached for comment at esaconsulting@comcast.net.

Illustrations and text from ANSI B11.TR3 are used with permission from the Association for Manufacturing Technology, McLean, VA.

No.	Hazards and hazardous situations
1.0	Mechanical hazards
2.0	Electrical hazards
3.0	Thermal hazards
4.0	Hazards generated by noise
5.0	Hazards generated by vibration
6.0	Hazards generated by radiation
7.0	Hazards generated by materials and substances (and their constituent elements) processed or used by the machine
8.0	Hazards generated by neglecting ergonomic principles in machine design
9.0	Combination of hazards
10.0	Unexpected start-up, unexpected overrun/overspeed (or any similar malfunction)
11.0	Impossibility of stopping the machine in the best possible conditions
12.0	Variations in the rotational speed of tools
13.0	Failure of the power supply
14.0	Failure of the control circuit
15.0	Errors of fitting
16.0	Break-up during operation
17.0	Falling or ejected objects or fluids
18.0	Loss of stability / overturning of the machine
19.0	Slip, trip and fall of persons

January Chapter Membership Anniversaries

The following Central New York ASSE members are celebrating their 5, 10, 15, 20, or 25 years of service anniversaries in January 2005.

5 Years—Eileen Clinton

10 Years—Jerry Clark

15 Years—Tom O'Brien

25 Years—Paul Tranchell

Please extend your congratulations to these outstanding chapter members. Each has contributed towards strengthening the safety and health profession though their continued involvement with ASSE.

Members celebrating 5 year anniversaries are invited to attend any of the next three chapter meetings (Jan-March) and enjoy

your meal paid for by the Chapter. You are also eligible for a free gift from the Chapter. Contact Chapter President Judy Smith for details.



SAVE THE DATE

Thursday, April 14

Empire State Safety 2005

CNY ASSE Annual Chapter Conference

Syracuse—Details Coming Soon!

SAVE THE DATE

June 12-15

Safety 2005

National ASSE Conference

New Orleans

www.asse.org

OSHA to Issue Final Rule on Standards Improvement Process

WASHINGTON -- The U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) will publish a final rule in the Jan. 5, 2005, *Federal Register* on the second phase of its standards improvement project. The project addresses inconsistent, duplicative or outdated provisions in OSHA's safety and health standards for general industry, maritime and construction.

"These changes will reduce the regulatory burdens on employers while maintaining the safety and health protections afforded to employees," said OSHA Administrator John Henshaw. "These burdens produce no safety and health value and once eliminated will

reduce annual costs by more than \$6.8 million. That's a winning combination for us all."

The final rule revises or eliminates medical provisions in older standards that were once considered accepted practice, but have since been deemed obsolete or unnecessary in current medical practice. For example, annual rather than semi-annual medical examinations will now be required for long-term employees exposed to inorganic arsenic, coke oven emissions, and vinyl chloride.

In addition, the final rule eliminates reporting requirements that have failed to benefit employee health. For exam-

ple, employers will no longer have to notify OSHA of all workplace releases for certain specified carcinogens. In addition, while employers are still required to establish regulated work areas for vinyl chloride, inorganic arsenic, acrylonitrile, and for the 13 known occupational carcinogens, they will no longer be required to notify OSHA each time they do so.

The final rule updates chemical exposure provisions by making them consistent in terms of the frequency of monitoring and the manner of employee notification of monitoring results.

www.osha.gov

**American Society of Safety Engineers
Central New York Chapter**

PO Box 42
Dewitt, New York
13214



Mailing Address Here...

We're on the web!

<http://cny.asse.org>

Protecting People, Property, and the Environment Since 1911.

January Chapter Meeting Information

Chapter members and friends are welcome to join us for our first meeting in the New Year. This is a must meeting for new members, inactive members, and anyone who wants to learn more about how the CNY Chapter of the ASSE can benefit you.

When: Thursday January 20, 2005. This meeting will be a luncheon meeting beginning at 12:00 noon.

Where: Danzer's Bavarian Restaurant, 153 Ainsley Drive, Syracuse. 315-422-0089 www.danzers.com

Cost of lunch will be \$12, and includes choice of several different entrees, coffee/tea, dessert, tax and tip.

Topic: ASSE Update. The pro-

gram will provide members with an overview of the CNY Chapter of the ASSE and give you an opportunity to meet this year's officers. The program will answer such questions as:

Where do my dues go?

What benefits do I get as a new member?

What about this new anniversary program?

What responsibilities does an officer have?

How can I get in touch with other members?

How do I get into National's website, CNY Chapter's website, and other Chapters' websites?

How can I get CEU's from the ASSE?

If you have any other questions about ASSE, please submit them when you register and we'll be sure to have the answer(s).

This meeting is also the kickoff of our anniversary and new membership program. So if you have a 5, 10, or 15 year anniversary this month or if you joined or transferred to our Chapter this month, your lunch is FREE.

Speakers: ASSE Central New York Officers.

RSVP: required, by January 18, 2005. Please e-mail Jeanette Kinsella at jkrisk@twcnv.rr.com or call her at (315) 727-2217.