

Professional Development Workshops

Sunday, August 26, 2007

Cost of attending a workshop is in addition to the general conference registration fee.

Essential Soft-skills for Investigators and Assessors

Instructor: Dr. Tyrone S. Tonkinson, President, Simple Approach, Inc.
Time: 8:00 AM – 5:00 PM

Most Root Cause Analysis training focuses on the technique, which usually involves some form of companion software. How effective will the technique be if the investigator is unable to get those being assessed to divulge the real reasons for undesired performance? Have you heard the expression “garbage in, garbage out?” This one-day skill development seminar is designed to provide root cause investigators and organizational assessors a set of soft-skills necessary to successfully research the deeper reasons for personnel and organizational under-performance. The presentation will be highly interactive to engage the participants and enhance their learning. The seminar is based on over 20 years of experience and thousands of investigations, and will include:

- Sponsorship and the team charter
- Planning for success
- Decoding documents and artifacts
- Developing rapport while maintaining independence
- Active listening
- Interviewing
- Conflict management and negotiation
- Gaining commitment for corrective actions
- Writing for impact
- Personal continuous improvement

This 1-day interactive seminar will provide the skills and confidence to be a much more effective investigator and assessor. This seminar will include a reference book about the essential skills, several in-class exercises, and copies of the slides.

Human Error Prevention

Instructor: Ben Marguglio, High Technology Seminars, LLC
Time: 8:00 AM – 5:00 PM

Overview:

In addition to discovery and invention, human error prevention can be the greatest contributor to improved productivity, safety and quality. This seminar provides the most current developments in human error prevention and mitigation and amelioration of the undesired effects of hazards actuated by human error. This seminar is unique in its approach, particularly with regard to Marguglio’s Human Error Causal Factor Taxonomy, which better enables the identification human error root causes.

Audience:

This seminar is designed for anyone whose objective is to improve productivity, safety and quality. The principles and practices of human error prevention and error effects mitigation/amelioration are universally applicable regardless of the type of industrial, commercial or governmental enterprise, and regardless of the type of function performed within the enterprise.

Learning Outcomes:

Upon completion of this seminar, one will be able to:

- Understand and use human performance and human error prevention terminology;
- Classify human error from different perspectives;
- Understand and recognize human error causal factors;
- Understand and use barriers to prevent human error which activates hazards, and barriers to mitigate and ameliorate the undesired effects of hazards, as well as techniques by which to strengthen the barriers;
- Recognize error-inducing conditions and error-likely situations, and understand and use behavioral techniques to counteract these conditions / situations.

Marguglio’s Human Error Causal Factor Taxonomy:

<i>Causal Factor</i>	<i>Description</i>
Knowledge-based	Error based on lack of knowledge of the standard, requirement or need.
Cognition-based / Skill-based	Error based on lack of the appropriate level of cognition; lack of ability to understand, apply, analyze, synthesize or evaluate such as to be able to meet the standard, requirement or need.
Value-based / Belief-based	Error based on lack of respect for or acceptance of the standard, requirement or need.
Error-Inducing Condition-based / Error-Likely Situation-based	Error based on lack of recognition of the condition or situation and/or lack of counteracting behavior.
Decision-based	Error based on lack of judgment in evaluating risk versus benefit. Lack of behavioral techniques for conservative decision-making.
Skill-based	Error based on lack of physical dexterity.
Lapse-based	Nothing lacking; simply “blew it”.

Workload Assessment Methods Tutorial

Instructor: Christopher Plott
 Time: 8:00 AM – 11:00 PM

This 3 hour tutorial session will address accepted and widely used methods for assessing and predicting operator workload demands in nuclear power plant operations.

We will review methods for assessing workload in existing facilities (i.e., captured directly from those experiencing the workload) and projective methods used in conjunction with human performance modeling to predict workloads in proposed configurations. We will describe the merits and applicability of these workload assessment tools and provide guidance in selecting the appropriate workload assessment method based on the goals of the analysis. We will cover the NASA/TLX and VACP approaches in greater detail. We will provide concrete examples from real data captured, in part, from studies conducted at the OECD Halden research facility.

Getting to Safety Culture from the Root Cause Analysis

Instructor: Dr. William Corcoran, Nuclear Safety Review Concepts Corporation

Time: 8:00 AM – 12:00 PM

Theme: We all know in our guts that the safety culture was part of the causation, but we struggle with the logical case. In this workshop we'll get practice in applying a step-by-step process in a collaborative workshop setting.

Who Should Attend: Leaders and individual contributors whose work relates to root cause analysis and/or safety culture in the high hazard industries. This includes operations, regulatory affairs, corrective actions, employee concerns, safety conscious work environment, and related endeavors.

Background: We will discuss what safety culture is in detail. Basically, safety culture is that part of culture that affects safety. Culture is made up of shared aspects of a group. It consists of mental content, behavioral norms, institutions, and characteristic physical items. (Mental content can be backed out of the combination of behaviors, institutions, and physical items.)

Process: In going from root cause analysis to safety culture the step-by-step process is:

1. Determine the factors that affected the nature, the magnitude, and the timing of the key consequences. (Done by ordinary root cause analysis methods.)
2. Characterize the factors as behavior factors, institutional factors, and physical item factors.
3. Determine the extent of the factors to decide whether they are culture or aberrations.
4. Collect the cultural results.

Inputs: The workshop leader will bring a few high profile nuclear and other high hazard industry root cause analysis reports for walk-throughs by the workshop. Participants will be invited to bring their own favorite investigation reports to work in the group. They can be redacted reports from their own organization or reports downloaded from the internet.

We will also be using event videos from the U. S. Chemical Safety and Hazard Board (CSB) to explore how safety culture affects the causes of high hazard industry events. The workshop will be designed to be highly informal and highly interactive. The workshop will be “paperless” in that all materials other than the videos and participant inputs will be distributed in advance by e-mail. Be sure to put your e-mail address in your

registration and, as a back-up, notify the workshop leader of your registration at William.R.Corcoran@1959.USNA.com

Human Performance 202 – Getting More Out of Human Performance Training

Instructor: Rob Fisher, President, Fisher IT, Inc.

Time: 8:00 AM – 12:00 PM

A 4-hour interactive learning session for human performance professionals to:

- Experience new ways to talk to your people about being the final barrier in the defense in depth concept;
- Improve communication of basic human performance concepts and fundamentals to your personnel; and
- Provide new ways to look at procedure compliance issues.

Change Management and Organizational Alignment Working Sessions

Instructor: Gil Crosby, Crosby & Associates, former Senior Organizational Development Specialist at Peach Bottom Atomic Power Station and Mark Horswood, Senior Consultant, Crosby & Associates, former Electrician in heavy manufacturing environment

Time: 1:00 PM – 5:00 PM

Theme: Working change management strategy session for attendees' current initiatives, and for building alignment in support of their ongoing role in the organization

Who Should Attend: Managers and/or individual contributors who are responsible for implementing change or influencing the organization outside their immediate span of control

Background: Participants will apply industry specific and universal change management theory and methods to an analysis of their own organizational human performance initiatives. They will devise strategies based on their analysis. In addition, they will be invited to assess and devise strategies towards maximizing the ongoing effectiveness of their role within the organization.

Process:

1. Participants will be familiarized with pertinent behavioral science and change management theory, grounded in the approach that was used to shorten outage length and change the culture at PECO Nuclear following the Peach Bottom shutdown by the NRC
2. Participants will apply said theory to analyzing their own behavior and their own approach to influencing the organization
3. Participants will devise a strategy for increasing their impact on their organization

Preparation and Additional Information: Participants should come to the workshop prepared to assess their current initiatives, as well as to assess their effectiveness at building alignment in support of their ongoing role in the organization. You *do not* need to bring any materials or information in order to conduct the type of assessment that we are proposing.

Teams from the same organization will work together during the session, and individuals will work in tandem with a peer from another organization.

Crosby & Associates would appreciate it if you would notify them in advance at gilmorcrosby@comcast.net of your intention to attend.

Cause Evaluation Using the Cause Roadmap

Instructors: Steve Davis and Chet Rowe

Time: 1:00 PM – 6:00 PM

This five hour course, taught by experienced event investigators, will provide attendees with an overview of various tools used in a cause evaluation and how to integrate them with the Excellence Engine's **Cause Road Map**® to achieve improved cause analysis results.

The **Cause Road Map**® is an event investigation tool that is designed to aid users in performing investigations for both equipment and human performance related events. **The result is corrective actions that fix problems, not symptoms.**

Learn how the Cause Road Map® can help you during the planning and investigation phases and help you validate your investigation findings.

The Cause Road Map®, developed by the Excellence Engine, is an easy-to use tool that is designed to aid investigators in identifying underlying and latent causes of events. The Cause Road Map® has its roots in the Institute of Nuclear Power Operation's Anatomy of an Event Model which provides the basic concepts for doing any cause investigation. The Cause Road Map® is a series of hierarchical logic steps (displayed in six different "Maps") that are designed to aid investigators in identifying the underlying causes for both equipment failures and human performance errors.

Course Objective:

Understand:

- how to use the **Cause Road Map**® and other investigation tools
- the use of cause evaluation tools to identify underlying cause(s) of an event
- how to select effective corrective and preventive actions
- the elements of an effective cause evaluation report
- the elements of an effective presentation

Course Participants will be provided:

- Copy of all presentation materials
- CD of various templates

Instructors:

Steve Davis started his consulting and educational services following his retirement from Constellation Energy. He has over 30 years experience in the commercial nuclear industry, 27 years at Constellation Energy's Calvert Cliffs Nuclear Power Plant and five at Nine Mile Point Nuclear Station. For over 16 years, Steve was the company's "go-to guy" for cause investigations. He specializes in equipment related problems but is equally adept at performing human performance related investigations.

Chet Rowe's over 30 years experience in the commercial nuclear industry has included investigations of the causes of many significant events. Chet is the creator of the Cause Road Map® taxonomy for cause investigations and has been trained in numerous problem solving techniques. Chet has an extensive background in Quality Assurance (QA), Corrective Action Programs (CAP) and Engineering at five nuclear power plants.

Tutorial on Good Practices for Human Reliability Analysis

Instructors: John Forrester and Ron Boring

Time: 1:00 PM – 5:00 PM

The U.S. Nuclear Regulatory Commission has established “good practices” for both performing human reliability analyses (HRAs) and reviewing HRAs to assess the quality of those analyses. Good practices refer to those processes that would be expected in an HRA in order for the HRA results to sufficiently represent the anticipated operator performance as a basis for risk-informed decisions.

This tutorial reviews the good practices outlined in the recent NUREG-1792 (“Good Practices for Implementing Human Reliability Analysis”) and NUREG-1842 (“Evaluation of Human Reliability Analysis Methods Against Good Practices”). The main topics covered by this tutorial include:

- a detailed discussion of the various HRA good practices, and
- examples of HRA methods, with a particular focus on the extent to which they provide guidance to satisfy the good practices.

This tutorial is directed at HRA practitioners and evaluators. It provides the opportunity to stay up to date on one of the latest developments in HRA and gain valuable take-home guidance to improve the practice of HRA.
