



ANSI/AIHA Z10-2012

Occupational Health and Safety Management Systems

*A Publication by
American Industrial Hygiene Association*



BY THE ANSI/AIHA Z10 COMMITTEE



ANSI/AIHA® Z10-2012

American National Standard — Occupational Health and Safety Management Systems

Secretariat

American Industrial Hygiene Association

Approved: June 27, 2012

American National Standards Institute, Inc.

This is a preview of "ANSI/AIHA/ASSE Z10-2...". Click here to purchase the full version from the ANSI store.

American National Standard

Approval of an American National Standard requires verification by ANSI that the requirements for due process, consensus, and other criteria for approval have been met by the standard's developer.

Consensus is established when, in the judgment of the ANSI Board of Standards Review, substantial agreement means much more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that a concerted effort be made toward their resolution.

The use of American National Standards is completely voluntary; their existence does not in any respect preclude anyone, whether he or she has approved the standards or not, from manufacturing, marketing, purchasing, or using products, processors, or procedures not conforming to the standards.

The American National Standards Institute does not develop standards and will in no circumstance give an interpretation of any American National Standard. Moreover, no person shall have the right or authority to issue an interpretation of an American National Standard in the name of the American National Standards Institute. Requests for interpretations should be addressed to the secretariat or sponsor whose name appears on the title page of this standard.

CAUTION NOTICE: This American National Standard may be revised or withdrawn at any time. The procedures of the American National Standards Institute require that action be taken to reaffirm, revise, or withdraw this standard no later than five years from the date of approval. Purchasers of American National Standards may receive current information on all standards by calling or writing the American National Standards Institute.

Published by

American Industrial Hygiene Association
3141 Fairview Park Drive, Suite 777, Falls Church, Virginia 22042

Copyright © 2012 by the American Industrial Hygiene Association
All rights reserved.

No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without the prior written permission of the publisher.

Printed in the United States of America.

ISBN: 978-1-935082-35-4

Stock No: SMAA12-698

This is a preview of "ANSI/AIHA/ASSE Z10-2...". Click here to purchase the full version from the ANSI store.

Table of Contents

Foreword	vii
1.0 Scope, Purpose, & Application	1
1.1 Scope.....	1
1.2 Purpose.....	1
1.3 Application.....	2
2.0 Definitions	3
3.0 Management Leadership and Employee Participation	5
3.1 Management Leadership.....	5
3.1.1 Occupational Health and Safety Management System.....	5
3.1.2 Policy.....	5
3.1.3 Responsibility and Authority.....	6
3.2 Employee Participation.....	7
4.0 Planning	9
4.1 Initial and Ongoing Reviews.....	9
4.2 Assessment and Prioritization.....	11
4.3 Objectives.....	13
4.4 Implementation Plans and Allocation of Resources.....	14
5.0 Implementation and Operation	14
5.1 OHSMS Operational Elements.....	14
5.1.1 Risk Assessment.....	15
5.1.2 Hierarchy of Controls.....	15
5.1.3 Design Review and Management of Change.....	16
5.1.4 Procurement.....	18
5.1.5 Contractors.....	18
5.1.6 Emergency Preparedness.....	19
5.2 Education, Training, Awareness, and Competence.....	20
5.3 Communication.....	21
5.4 Document and Record Control Process.....	22
6.0 Evaluation and Corrective Action	23
6.1 Monitoring, Measurement, and Assessment.....	23
6.2 Incident Investigation.....	25
6.3 Audits.....	26
6.4 Corrective and Preventive Actions.....	26
6.5 Feedback to the Planning Process.....	27
7.0 Management Review	27
7.1 Management Review Process.....	27
7.2 Management Review Outcomes and Follow Up.....	29

Table of Contents (cont.)

Appendices	30
Appendix A Policy Statements (Section 3.1.2)	31
Appendix B Roles and Responsibilities (Section 3.1.3)	32
Appendix C Encouraging Employee Participation (Section 3.2).....	34
Appendix D Planning-Identification, Assessment and Prioritization (Section 4).....	38
Appendix E Objectives/Implementation Plans (Section 4.3 and 4.4)	42
Appendix F Risk Assessment (Section 4.1 & 5.1.1)	47
Appendix G Hierarchy of Control (Section 5.1.2).....	53
Appendix H Management of Change (Section 5.1.3)	54
Appendix I Procurement (Section 5.1.4)	57
Appendix J Contractor Safety and Health (Section 5.1.5)	58
Appendix K Incident Investigation (Section 6.2).....	61
Appendix L Audit (Section 6.3).....	65
Appendix M Management Review Process (Section 7.1 and 7.2)	71
Appendix N Management System Standard Comparison (Introduction)	73
Appendix O Bibliography and References	78

Foreword

Quality, environmental, and occupational health and safety (OHS) management systems are used by many organizations in the U.S. and around the world. Quality and environmental systems are frequently in conformance to international voluntary consensus standards, or they share many basic concepts and principles with them. The development of international OHS standards and guidelines is a more recent phenomenon. Many organizations operate their own occupational health and safety management systems (OHSMS), while others use systems that conform to available guidelines. Until the development of this voluntary consensus standard, there was no U.S. OHSMS consensus standard.

There is widespread agreement that the use of management systems can improve organizational performance, including performance in the occupational health and safety arena. The Occupational Safety and Health Administration's (OSHA) Voluntary Protection Program (VPP) relies on management system principles and has reported success in improving occupational health and safety performance among participating companies. In addition, the American Chemistry Council (ACC) reports success in improving environmental performance of participating organizations. The major professional health and safety organizations are also on record in support of management systems as effective tools for improving health and safety performance, as well as for contributing to the overall success of the business. Finally, the fact that many organizations in the U.S. and abroad are implementing management systems in occupational health and safety is evidence that these systems add value to their businesses.

In 1999, the American National Standards Institute officially approved the ANSI Accredited Standards Committee Z10, with the American Industrial Hygiene Association as its Secretariat, to begin work on a U.S. standard. A committee was formed with broadly representative members from industry, labor, government, professional organizations and general interest participants. The committee examined current national and international standards, guidelines and practices in the occupational, environmental and quality systems arenas. Based on extensive deliberations, they adapted the principles most relevant from these approaches into a standard that is compatible with the principal international standards as well as with management system approaches currently in use in the U.S. The process of developing and issuing a national consensus standard is expected to encourage the use of management system principles and guidelines for occupational health and safety among American organizations. It may also yield widespread benefits in health and safety, as well as in productivity, financial performance, quality and other business goals.

Introduction

This is a voluntary consensus standard on occupational health and safety management systems. It uses recognized management system principles in order to be compatible with quality and environmental management system standards such as the ISO 9000 and ISO 14000 series. The standard also draws from approaches used by the International Labor Organization's (ILO) guidelines on Occupational Health and Safety Management Systems and from systems in use in organizations in the U.S.

The design of ANSI Z10 encourages integration with other management systems to facilitate organizational effectiveness using the elements of Plan-Do-Check-Act (PDCA) model as the basis for continual improvement. PDCA was popularized by Dr. W. Edwards Deming, and is used as a framework by most management system standards.

While the scope of ANSI Z10 covers occupational health and safety, it can also be used to support other initiatives such as social responsibility and sustainability. Sustainable growth encourages organizations to continually improve all facets of their business. The adoption of Z10 fits well with organizations desiring long-term sustainable growth in a socially responsible manner by reducing injury and illness and improving overall employee well-being.

The purpose of the standard is to provide organizations an effective tool for continual improvement of their occupational health and safety performance. An OHSMS implemented in conformance with this standard can help organizations minimize workplace risks and reduce the occurrence and cost of occupational injuries, illnesses and fatalities. Some organizations already have developed an effective OHSMS appropriate to their needs but may not conform precisely to this standard. In those instances, the standard may serve as a voluntary tool to identify possible opportunities to improve their systems. Each organization electing to conform to this standard will determine how it will evaluate its conformance to the standard.

Management systems typically include multiple levels of implementation, an example of which is shown in Figure 1.

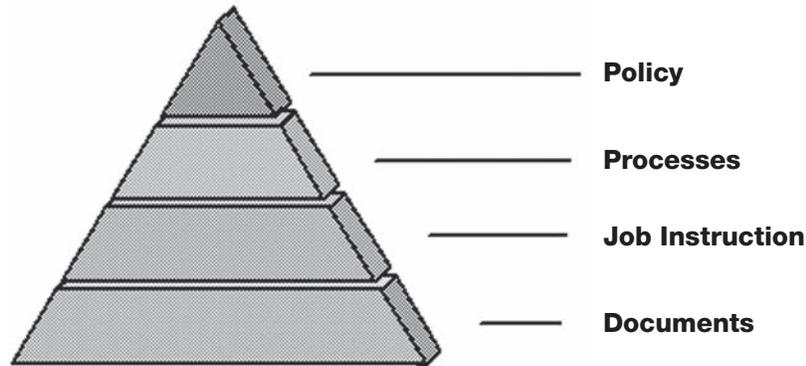


Figure 1-Layers of Management System Implementation

ANSI/AIHA® Z10 focuses primarily on the strategic levels of policy and the processes to ensure the policy is effectively carried out. The standard does not provide detailed procedures, job instructions or documentation mechanisms. Each organization must design these according to their needs.

Figure 2 illustrates how the OHSMS requirements, described in this standard, can enhance the approach to managing health and safety program activities (e.g., hazard identification and risk reduction). The circle in the middle of the diagram shows the OHSMS continual improvement cycle based on the recognized quality concept of “Plan-Do-Check-Act.”

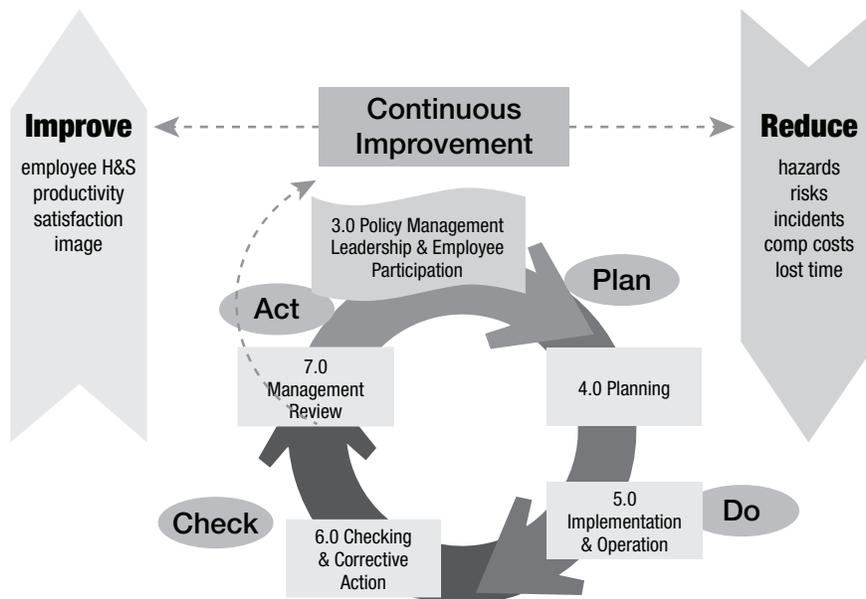


Figure 2-OHSMS Cycle

The OHSMS cycle entails an initial planning process and implementation of the management system, followed by a process for checking the performance of these activities and taking appropriate corrective actions. The next step involves a management review of the system for suitability, adequacy, and effectiveness against its policy and this standard. The complete cycle is repeated, resulting in ongoing continual improvements in occupational health and safety. Improvements result from reducing hazards and risks in a systematic manner – a goal traditionally pursued through independent programs that often are not coordinated through common management principles and processes.

The processes that drive implementation of the organization’s management system also facilitate improved teamwork and operational performance. It places less reliance on single individuals and more emphasis on an organization’s process and teamwork to maintain business functions even as personnel changes (a person’s absence) occur. In addition to the direct benefits of improved employee health and safety, a management system can also yield positive business outcomes, including enhanced productivity, financial performance, and employee satisfaction.

The management system approach is characterized by its emphasis on continual improvement and systematically eliminating the underlying or root causes of deficiencies. For example, in a systems approach, if an inspection finds an unguarded machine, not only would the unguarded machine be fixed, but there would also be a systematic process in place to discover and eliminate the underlying reason for the deficiency. This process might then lead to the goal of replacing the guards with a more effective design, or to replacement of the machines themselves so the hazard is eliminated. This systematic approach seeks a long-term solution rather than a one-time fix.

This standard is formatted into two columns to help distinguish requirements from recommended practices and explanatory information. Requirements are in the left column and are identified by the word “shall.” An organization that chooses to conform to this standard is expected to fulfill these requirements. The text in the right hand column uses the word “should” to describe recommended practices, or explanatory notes to the requirements on the left. This use of the terms “shall” and “should” to identify requirements and distinguish them from recommendations and explanatory notes is common practice in ANSI and international standards. As a convenience, some section titles and subtitles are footnoted to reference helpful documents in the bibliography.

This standard was processed and approved through ANSI by the Z10 Accredited Standards Committee on Occupational Health and Safety Management Systems. Committee approval of the standard does not necessarily imply all committee members voted for its approval. The ANSI accredited Z10 Secretariat, Committee, or individual committee members accept no legal responsibility for the correctness or completeness of this material or its application to specific factual situations. By publication of this standard, the Z10 Committee does not ensure adherence to these recommendations will protect the safety or health of any persons, or preserve property.

5.1.3 Design Review and Management of Change (21-30)

The organization shall establish a process to identify, and take appropriate steps to prevent or otherwise control hazards at the design and redesign stages, and for situations requiring

The numbers below a section title or sub title refer to references in the bibliography. (Appendix O)

At the time it approved this standard, the Z10 committee had the following members:

James Howe, CSP, Chair
 Vic Toy, MPH, CIH, CSP Vice Chair
 Vicky Yobp, Secretariat Representative

Organization Represented	Name of Representative
AAOHN	B. Tobias, MBA, RN, COHN-S, CCM, FAAOHN
AFL-CIO	B. Kojola, MS
AFSCME	D.M. Brown, MS, CET
Alcoa, Inc.	C. Dixon-Ernst, MS. Hyg, CIH, MA, CCC-A
American Chemistry Council	M. Moriarty, CIH
American College of Occupational and Environmental Medicine	M. Cunningham-Hill, MB, ChB, FFOM
American Foundry Society	T. Slavin, CIH, CSP, CSHM, CPEA
American Industrial Hygiene Association	M. Visage, PhD
American Petroleum Institute	A. Pinheiro, MS, CSP, CPEA, CRSP
American Society of Safety Engineers	K. Seabrook, CSP, CMIOSH
American Textile Manufacturers Institute	Vacant
B11 Standards, Inc.	D. Felinski, MS
Baxter Healthcare Corporation	S. Donnelly Kemerer, MSN, COHN-S/CM
British Petroleum	D. Jones, MBA, PE, CSP
Closure Systems International	D. Hayden, MS, CIH, CSP
Cornell University	J. Grieger, MPH, CIH, CSP, CHMM
CPWR: The Center for Construction Research and Training	J. Platner, PhD, CIH
Crawford Consulting Associates	K. Crawford, PE, CSP
Deere & Company	D. Broghammer, CIH
Dept. of Veterans Affairs	C. Hollenbeck, MS, MBA, CIH, REM
Dotson Group, LLC	K. Dotson, MS, CIH, CSP, BCEE
Duke Energy	H. Schmulling, MPH, CIH, CSP
ENLAR Compliance Services	T. Dunmire, JD, CIH, CSP
FDR Safety	M. Taubitz, MA, BSME
FIRECON	R.C. Schroll, CSP, CET
IBM	V. Toy, MPH, CIH, CSP
Lawrence Berkeley National Laboratory	A. Peterson, MPH, CIH
Liberty Mutual Insurance	T. Braun, MBA, CPE, CSP
Marshfield Clinic	B. Cunha, MS, RN, COHN-S
M.C. Dean	J. Bennett, CHCM
Mercer	F. White
National Nuclear Security Administration	D. Harvey
National Safety Council	J. Johnson
New York State Department of Transportation	Vacant

NIOSH	P. Schulte, PhD
North Carolina Department of Transportation	R.K. Andrews, MBA, CSP
Nucor Corporation	T. Reeves
OSHA	M. Seymour, CIH
Risky Biz Inc.	G. Lopez, MS, CSP
Safety Compliance Services LLC	R. Nelson Shea, BSME, MEng
Safety Solutions	J. Howe, CSP
Siemens Healthcare Diagnostics Inc.	R. Friedman, MS
State University of New York	M. O' Reilly, PhD, CIH, CPE
STR-Registrar	B. Carson
Toyota	Lee-Na Tsai, MS, CHMM, RABQSA LA
United Auto Workers International Union	J. Rupp
United Food and Commercial Workers International Union	R. Robbins, CIH
United Steelworkers of America	M. Wright
United Technologies Corporation	M. Heffernan, CIH
University of Alabama	W. Weems, DrPH, CIH
University of South Florida	C. Vespi
U.S. Army Public Health Command	B. Rathbun, MS., CET
U.S. Chamber of Commerce	Vacant
Voluntary Protection Programs Participants' Association	Vacant

At the time it approved this standard, the Z10 committee had the following alternate members:

<i>Organization Represented</i>	<i>Name of Representative</i>
American Chemistry Council	D. Kellogg (Alt to M. Moriarty)
American College of Occupational and Environmental Medicine	J. Fortuna (Alt to M. Cunningham-Hill)
American Society of Safety Engineers	J. Smith (Alt to K. Seabrook)
Cornell University	B. Kuo (Alt to J. Grieger)
Duke Energy	T. Johnson (Alt to H. Schmulling)
National Safety Council	J. Thomas (Alt to J. Johnson)
NIOSH	D. Heidel (Alt to P. Schulte)
OSHA	D. Wallis (Alt to M. Seymour)
United Auto Workers International Union	L. Mike (Alt to J. Rupp)
United Food and Commercial Workers International Union	J. Nowell (Alt to R. Robbins)
United Steelworkers of America	J. Frederick, MS (Alt to M. Wright)
United Technologies Corporation	J. Hughes (Alt to M. Heffernan)
U.S. Army Public Health Command	S. Parker-Monk (Alt to B. Rathbun)

At the time it approved this standard, the Z10 committee had the following technical resource (non-voting) members:

<i>Organization Represented</i>	<i>Name of Representative</i>
Sidley-Austin Bell & Wood LLP	C. Bell
ANSI-ASQ National Accreditation Board	S. Richter
U.S. Tag TC 176	S. Thomas

American National Standard — Occupational Health and Safety Management Systems

1.0 Scope, Purpose, & Application

1.1 Scope

This standard defines minimum requirements for an occupational health and safety management system (OHSMS).

1.2 Purpose

The primary purpose of this standard is to provide a management tool to reduce the risk of occupational injuries, illnesses, and fatalities.

E1.1: The basic elements of the standard address management leadership and employee participation, planning, implementation, evaluation and corrective action and management review, as described in the corresponding sections. The processes required in this standard are interrelated for continual improvement. This system model goes beyond a simple sum of individual or isolated health and safety programs and activities, such as incident investigation, inspections, and training. The management system in this standard is designed to continually improve safety and health performance, and is aligned with the traditional Plan – Do – Check – Act approach for improving the workplace.

This standard provides basic requirements for occupational health and safety management systems, rather than detailed specifications. This approach is designed to provide flexibility to conform to this standard in a manner appropriate to each organization and commensurate with its occupational health and safety risks. The standard defines what has to be accomplished in generic performance terms, but it leaves the how to each organization. This standard provides a systems approach intended to complement consensus and other standards that provide safety and health guidance for specific industry sectors, processes, and tasks – some of which are referenced in Appendix O. This is because the risks, organizational structure, culture, and other characteristics of each organization are unique, and each organization has to define its own specific measures of performance.

E1.2: Organizations and the community may see additional benefits of implementing an OHSMS beyond the reduction of injury and illnesses. Some of these benefits may include: lowered Workers' Compensation costs; reduced turnover of personnel; reduced lost workdays; compliance with laws and regulations, increased productivity; improved employee health status; improved product quality,