

ANSI/ASSP Z10.0-2019

Occupational Health and Safety
Management Systems



AMERICAN SOCIETY OF
SAFETY PROFESSIONALS



This is a preview of "ANSI/ASSP Z10.0-2019". [Click here to purchase the full version from the ANSI store.](#)

The information and materials contained in this publication have been developed from sources believed to be reliable. However, the American Society of Safety Professionals (ASSP) as secretariat of the ANSI Z10 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, ASSP or the Z10 Committee does not ensure that adherence to these recommendations will protect the safety or health of any persons or preserve property.

ANSI®
ANSI/ASSP Z10.0– 2019

American National Standard

**Occupational Health and Safety
Management Systems**

Secretariat

American Society of Safety Professionals
520 N. Northwest Highway
Park Ridge, Illinois 60068

Approved August 22, 2019

Effective January 1, 2020

American National Standards Institute

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 standards developer. Consensus is established when, in the judgment of the ANSI Board of Standards Review, substantial agreement has been reached by directly and materially affected interests. 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/she has approved the standards or not, from manufacturing, marketing, purchasing, or using products, processes, 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 interpretation 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 periodically to reaffirm, revise, or withdraw this standard. Purchasers of American National Standards may receive current information on all standards by calling or writing the American National Standards Institute.

Published September 2019 by

American Society of Safety Professionals
520 N. Northwest Highway
Park Ridge, IL 60068
(847) 699-2929 • www.assp.org

Copyright ©2019 by American Society of Safety Professionals
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

Foreword

(This Foreword is not a part of American National Standard (Z10.0-2019))

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 frequently conform to international voluntary consensus standards or they share many basic concepts and principles with them. More recently international OHS standards and guidelines have been developed. Many organizations operate their own occupational health and safety management systems (OHSMS), while others use systems that conform to recognized guidelines. Until the development of this voluntary consensus standard, there was no U.S. occupational health and safety management system (OHSMS) consensus standard.

There is widespread agreement that the use of management systems can improve organizational performance, including occupational health and safety performance. 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 management system success in improving environmental performance of their 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.

The Z10 Committee began its work in 1999 with the forming of a consensus body 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. Principles most relevant from these approaches were adapted 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 encourages 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. The committee has seen numerous examples over the years of organizations benefitting from implementation of a system, and studies and data also provide additional support of the value in implementing a system.

Note: The standard was originally approved in 2005, revised in 2012, reaffirmed in 2017, and the standard is now significantly revised to recognize recent advances in safety management system and to synergize with global standards development via the International Organization for Standardization.

The goal of the Z10 committee during this revision process was to enhance the understanding and utility of the standard as well as to increase emphasis on process and system improvement. The major modifications and enhancements to the standard provide general alignment of the high-level structures of ANSI/ASSP Z10.0 and ISO 45001. This will facilitate implementation by organizations desiring conformance to both standards. These modifications and enhancements include:

- Addition of Section 4, Context of the Organization – Strategic Considerations, to align with ISO 45001 and ensure that organizations consider internal and external issues when planning their OHSMS.
- Replacement of the definition of “employee” with a definition of “worker” to align with the United States interpretation of the ISO 45001. The new definition potentially broadens the coverage of the management system to include certain workers that are not employed by the organization. This change was needed to address current staffing strategies that use contract employees for jobs previously performed by the organization's employees. It will also provide coverage to volunteer workers that are common in some industries such as healthcare.

- Creation of a new Section 7, Support, which includes resources, education, training and competence, communication and document control process. Creation of Section 7 aligns with ISO 45001 and pulls together support requirements from other sections of Z10.0. Some of these items were previously in Section 3, 4 and 5. The new section is placed after planning because support functions are typically determined during the planning process. Many changes were made to this section especially related to communication.
- Conversion from two-column format to single column to facilitate electronic access. Most of the right column explanatory material was either converted to notes or added to Annex A.

In addition, the Z10.0 standard contains extensive modifications of requirements and notes to convey the interdependence of management system elements, clarify intent, emphasize essential activities and to facilitate integration with other management systems. These modifications include:

- Inclusion of a new requirement in 5.2 that requires worker input and involvement in determination of acceptable level of risk. In addition, requirements were added for participation in Section 4, Context of the Organization, and Section 7, Support, to acknowledge and emphasize that worker participation requirements exist in virtually every other section of the standard.
- Addition of a new 8.2, Identification of OHSMS Issues, using some of the text previously in Section 6. This significant change enhances emphasis on strategic planning primarily required in Section 6 and operational planning required in Section 8 as well as other sections.
- Addition of occupational health requirements in 8.8 to emphasize the importance of occupational health in the overall OHSMS. In addition, occupational health terms and concepts were added to several existing requirements throughout the standard.
- Modification of 9.5 to emphasize organizational learning and feedback which are critical to successful management system implementation.
- Additional language on the integration of the OHSMS with business systems has been added to several sections.

Revisions to the standard also include extensive updating of Annex A, ANSI/ASSP Z10.0 Explanatory and Advisory Text, to enhance understanding of requirements and convey effective practices based on experience from organizations that have implemented the Z10.0 standard. Annex B, Bibliography, has been updated by the addition of a wide array of resources to assist organizations during implementation.

Finally, the Z10 Committee developed two separate guidance documents:

- A comprehensive companion Guidance Manual to assist users during the implementation of Z10.0 or other OHS management systems. The manual includes chapters specific to management system activities such as policy development and worker participation. In addition, it includes chapters on systems thinking, understanding the workplace, fatal and serious injury and illness prevention, occupational health, workplace violence, metrics and measurement and many other topics.
- A guidance document designed specifically for small and medium-size enterprises (SMEs) to assist them in understanding occupational safety and health management system concepts and to start them on the journey to implementation of Z10.0 standard.

Introduction

This is a voluntary consensus standard on occupational health and safety (OHS) management systems. It uses recognized management system principles in order to be compatible with quality and environmental management system standards such as ISO 9001, ISO 14001 and ISO 45001. 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.

While it is not the intent of this document to duplicate requirements covered in ISO 45001, this standard provides a level of alignment and interpretation of those requirements relative to a U.S. perspective on the ISO standard.

While the scope of ANSI/ASSP Z10.0 covers OHS, 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 ANSI/ASSP Z10.0 fits well with organizations desiring long-term sustainable growth in a socially responsible manner by reducing injury and illness and improving overall worker well-being.

Organizations can experience periods of time without serious injuries and illnesses, but this does not mean that the workplace is safe. The concept of safety (including health) is active, not passive. It emerges as the result of how the organization operates and how the work is done.

The Z10.0 management system is designed to enable organizations to create the capacities for managing the processes of safety and health. Organizations should see safety as a dynamic process to be managed rather than an outcome to be achieved.

Safety as used in this standard is viewed as resulting or emerging from the interactions of the system components including the capabilities, the presence of barriers and the effectiveness of controls to ensure successful work and protect against harm. This concept of safety expands beyond the historical view of safety being merely the absence of injury or freedom from unacceptable risk. It recognizes the complex interactions of the workers, the work, the workplace and the context of the organization that all need to be considered to proactively manage and sustain successful work under the dynamic conditions that are present.

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 the requirements of 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.

ANSI/ASSP Z10.0 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.

The design of ANSI/ASSP Z10.0 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. (see Figure 1)

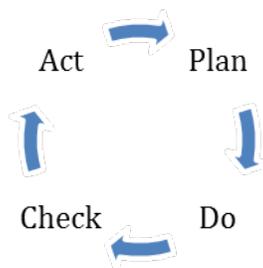


Figure 1

Many of us think of the Plan-Do-Check-Act (PDCA) when we think about systems and often use this model when we set up our management systems. However, it is easy to fall into thinking about the PDCA in a linear fashion versus a dynamic, nonlinear complex system. The intentions of PDCA is very much one of dynamic application, but too often PDCA becomes a linear checklist- first you plan, then do, then

check and then act. How do we overcome the tendency of applying PDCA in this linear way? One way is to recognize the interdependent dynamic relationships between each of the elements. For example, understanding that our checking will cause us to modify our plans, and that planning affects not only doing but also checking. If we take a closer look at the PDCA model, we can begin to see that the PDCA model can be applied multiple times within the application of the PDCA cycle.

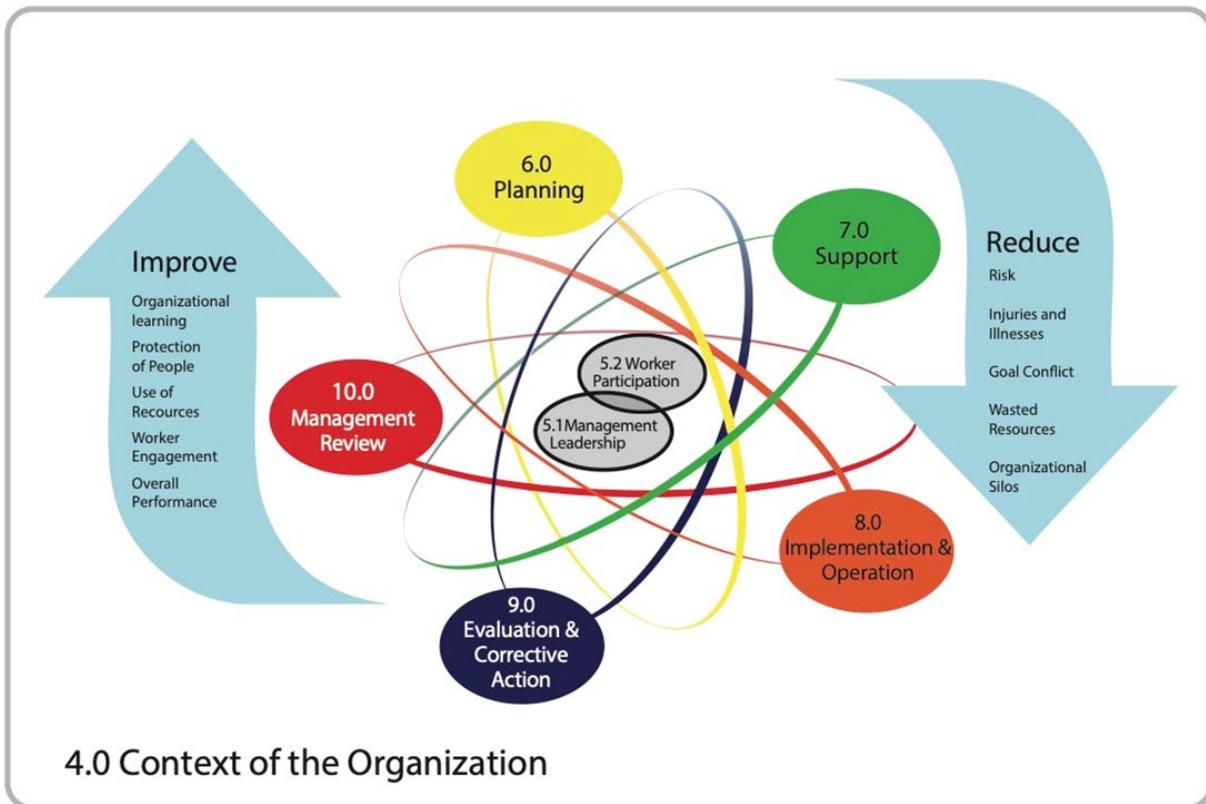


Figure 2

Figure 2 is the new model of ANSI/ASSP Z10.0 which depicts the nonlinear dynamic interaction of management system elements. The model illustrates the interactions of the different elements of the OHSMS. Note that the elements of the OHSMS interact in different places within the system, illustrating that the system is dynamic with feedback loops that may intersect at varying points within the system. The model also depicts the importance of the interactions of workers and management and is a keystone to the dynamic system around them. They are interlocked in their efforts for an OHSMS that produces wanted outcomes. Furthermore, our organizations do not exist in a vacuum. There are internal and external factors continuously pushing and pulling on the OHSMS. Figure 2 illustrates how the OHSMS is surrounded by internal and external context.

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 worker health and

safety, a management system can also yield positive business outcomes including enhanced productivity, financial performance and worker satisfaction.

This standard is designed so it can be integrated with quality, environmental and other management systems within an organization. The Z10 committee believes that integrating the OHSMS with other business systems is effective because it makes use of time-tested and familiar management practices. In addition, integration strengthens both the OHSMS and other business activities.

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 reasons 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.

Unlike previous editions of the standard, this revision of ANSI/ASSP Z10.0 standard is not presented in two columns. Instead, requirements are listed in each section of the standard followed by notes that are interpretive of the individual requirements. In the standard itself the word "shall" is used for requirements. An organization that chooses to conform to this standard is expected to meet these requirements. Recommendations and explanatory notes are identified by the word "should." Implementation information can be found in the *Guidance Manual*.

This standard was processed and approved through ANSI by the Z10 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 Secretariat, Z10 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.

At the time ANSI approved this standard, the Z10 Committee had the following members:

Jim Howe, CSP, Chair
 Vic Toy, CIH, CSP, Vice Chair
 Timothy R. Fisher, CSP, CHMM, CPEA, CAE, ARM, STS, Secretary
 Lauren Bauerschmidt, MS Engr, CSP, STS, Assistant Secretary
 Jennie Dalesandro, Administrative Technical Support

Organization Represented

Name of Representative(s)

Alcoa Corporation	Benjamin Maxson
American Association of Occupational Health Nurses, Inc.	Jennylynn Balmer, MPA, RN, COHN-S, CSP, FAAOHN
American Chemistry Council	Daniel Roczniak
American College of Occupational & Environmental Medicine	A. L. Jones, MD, MS, FACOEM
American Federation of State, County & Municipal Employees	Eunice Salcedo
American Foundry Society	Thomas Slavin, CIH, CSP, CSHM, CPEA
American Industrial Hygiene Association	Russ Hayward, CIH
American Society of Safety Professionals	Kathy Seabrook, CSP, CFIOSH, EurOSHM
AT Safety	James Smith, CSP
Baxter	Amy Timmerman, MS, CSP, CHES
	Tressa Milton
	Peggy Ross, RN, MS, COHN-S/CM, FAAOHN, CSP, CPE
Booz Allen Hamilton	Kenneth Clayman, SMS
Chevron	Susanne McDonald, Ph.D., MPH
City of Houston	Steven Guillory, Jr., MS, CSP, WSO-CSE, CSHM, REM
	Luis Cruz, BS, ASP
Clemson University	James Grieger, CIH, CSP, CHMM
CPWR - The Center for Construction Research & Training	Bruce Lippy, Ph.D., CIH, CSP
	Babak Memarian, Ph.D.
Deere & Company	Scott Fowler
Dotson Group, LLC	Kyle Dotson, CIH, CSP, BCEE
Engaged Change Solutions	Tom Reeves
FDR Safety, LLC	Joe Wolfsberger, MS, CIH, CSP
Haley & Aldrich, Inc.	Danyle Hepler, CSP, CESCO, CPEA
	Michael Pardus, REM, CESCO
High Reliability Group	Jeffrey Hedges
IBM Corporation	Zachary Camarena
Icarus Environmental, Inc.	Michael Seymour, MS, MPH, CIH
Insyst OH&S	Vic Toy, CIH, CSP

International Union of Electrical Workers –
Communication Workers of America (IUE-CWA)
Liberty Mutual

M.C. Dean, Inc.

Marshfield Clinic Health System
Master Lock Company LLC
NAES Corporation
National Institute for Occupational Safety & Health

National Safety Council
North Carolina Department of Transportation

Nucor Corporation

ORCHSE Strategies, LLC

Pacific Gas and Electric Company

Performance Contractors, Inc.
Ports America
Risky Biz Services Inc.
Safety Compliance Management, Inc.
Safety Solutions Inc.
Siemens
Sixth Sense Safety Solutions
Tesla, Inc.
Toyota Motor North America
U.S. Army Corps of Engineers
U.S. Bureau of Reclamation
U.S. Department of Energy
U.S. Department of Labor - OSHA

United Auto Workers (UAW)

United Steelworkers
United Technologies
University of Alabama

Utility Workers Union of America

Debra Fisher, CSMP, CSHM

Frederick Norton

John Rabovsky, MS, CSP, CHST, CRIS,
ARM

John Bennett, CHCM

Aaron Schoemaker, CSP

Melissa Diers-Sarasin, M.S.

William Belongea

David Jackson, CIH, CSP

Paul Schulte

Jonathan Bach, PE, CSP, CIH

Jonathan Thomas

Frank Beck

Scott Mabry

Tim Reeves

George Stephenson

Scott Madar, CIH

Bill Hoyle

Todd Hohn, CSP

Catherine Kawachi, CSP

Jeremy Miller, CSP

John Esposito

C. Gary Lopez, CSP

Ron Gantt

Jim Howe, CSP

Robert Friedman, MS

Greg Zigulis, CIH, CSP

Laurie Shelby, CSP, CIH

Stephen Greco

Bonnie Rathbun, CIH, CET

Daniel Mitchell, CIH MPA MSPH

Harrichand Rhambarose, CIH, CSP

Mark Hagemann

William Zettler

Andrew Comai, MS

Sean Coughlin

Michael Wright

Matthew Twerdy, CSP, CHMM

William Weems, Dr.P.H., CIH

Jonathon Halbesleben, Ph.D.

John "Scotty" MacNeill, CUSP

Voluntary Protection Programs Participants
Association

Christopher Colburn, MEng, CSP, CHMM

Workplace Health Without Borders

Phil Walsh

Mary O'Reilly, Ph.D., CIH, CPE

Albert Tien

Observers

Boise Cascade

Terry Evans, CSP, ARM

Chris Lawrence

Frederick Health & Safety Services, LLC

James Frederick

Grover Safety Consulting

Todd Grover

U.S. Forest Service

Ivan Pupulidy

Z10 Edit Committee and Additional Contributors:

Kim Clawson

Christopher Colburn, Meng, CSP, CHMM

Sean Coughlin

James Frederick

Russ Hayward, CIH

Danyle Hepler, CSP, CESCO, CPEA

Jim Howe, CSP

Sharon Kemerer, MSN, COHN-S/CM

Kathy Seabrook, CSP, CFIOSH, EurOSHM

Michael Seymour, MS, MPH, CIH

Thomas Slavin, CIH, CSP, CSHM, CPEA

Amy Timmerman, MS, CSP, CHES

Vic Toy, CIH, CSP

Joe Wolfsberger, MS, CIH, CSP

Contents

Foreword.....	i
1. Scope, Purpose and Application	1
1.1 Scope.....	1
1.2 Purpose.....	1
1.3 Application	1
2. References	1
2.1 Normative References.....	1
2.2 Informative References	1
3. Definitions	1
4. Context of the Organization – Strategic Considerations	5
4.1 Understanding the Organization and Its Context	5
4.2 Understanding the Needs and Expectations of Workers and Other Interested Parties	5
4.3 Determining the Scope of the OHS Management System	5
5. Management Leadership and Worker Participation.....	7
5.1 Management Leadership.....	7
5.2 Worker Participation	8
5.3 OHS Management System.....	9
6. Planning.....	10
6.1 Review Process	10
6.2 Assessment and Prioritization	11
6.3 Objectives and Targets	11
6.4 Implementation Plans and Allocation of Resources.....	12
7. Support	13
7.1 Resources.....	13
7.2 Education, Training and Competence.....	13
7.3 Awareness and Communication.....	14
7.4 Document Control Process.....	15
8. Implementation and Operation	16
8.1 Operational Planning and Control.....	16
8.2 Identification of OHSMS Issues.....	17
8.3 Risk Assessment.....	18
8.4 Hierarchy of Controls.....	18
8.5 Design Review and Management of Change.....	19
8.6 Procurement.....	20
8.7 Contractors	21

8.8 Occupational Health	21
8.9 Emergency Preparedness	22
9. Evaluation and Corrective Action	23
9.1 Monitoring, Measurement and Assessment.....	23
9.2 Incident Investigation.....	24
9.3 Audits	24
9.4 Corrective Actions	25
9.5 Feedback and Organizational Learning	25
10. Management Review	26
10.1 Management Review Process	26
10.2 Management Review Outcomes and Follow-Up.....	27
Annexes.....	28
Annex A – ANSI/ASSP Z10.0 Explanatory and Advisory Text.....	29
E1 Scope, Purpose and Application	29
E1.1 Scope	29
E1.2 Purpose	29
E4 Context of the Organization - Strategic Considerations.....	29
E4.1 Understanding the Organization and its Context.....	29
E4.2 Understanding the Needs and Expectations of Workers and Other Interested Parties ..	30
E4.3 Determining the Scope of the OHS Management System.....	31
E5 Management Leadership and Worker Participation.....	31
E5.1 Management Leadership	31
E5.2 Worker Participation.....	33
E6 Planning	36
E6.1 Review Process	36
E6.2 Assessment and Prioritization	37
E6.3 Objectives and Targets	39
E6.4 Implementation Plans and Allocation of Resources.....	39
E7 Support.....	40
E7.1 Resources.....	40
E7.2 Education, Training and Competence	40
E7.3 Awareness and Communication.....	41
E7.4 Document and Record Control Process	42
E8 Implementation and Operation.....	42
E8.1 OHSMS Operational Planning and Control	42
E8.2 Identification of OHSMS Issues.....	43

E8.3 Risk Assessment	45
E8.4 Hierarchy of Controls	45
E8.5 Design Review and Management of Change	46
E8.6 Procurement	47
E8.7 Contractors	47
E8.9 Emergency Preparedness.....	48
E9 Evaluation and Corrective Action	48
E9.1 Monitoring, Measurement and Assessment	48
E9.2 Incident Investigation	50
E9.3 Audits.....	52
E9.4 Corrective Action.....	52
E10 Management Review	53
E10.1 Management Review Process.....	53
E10.2 Management Review Outcomes and Follow-Up.....	53
Annex B – Bibliography.....	54
4. Context of the Organization - Strategic Considerations	54
5. Management Leadership and Worker Participation	54
6. Planning	56
7. Support	57
8. Implementation and Operation	57
9. Evaluation and Corrective Action.....	63
10. Management Review.....	64

AMERICAN NATIONAL STANDARD Z10.0 OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEMS

1. Scope, Purpose and Application

1.1 Scope

This standard defines requirements for an occupational health and safety management system (OHSMS) and provides flexibility in how to conform to the requirements of this standard in a manner appropriate to each organization and commensurate with its occupational health and safety (OHS) risks.

1.2 Purpose

This standard provides a management tool to improve performance, provide safe workplaces and reduce the risk of occupational injuries, illnesses and fatalities.

1.3 Application

This standard is applicable to organizations of all sizes and types.

The word “shall” is used for requirements. An organization that chooses to conform to this standard is expected to meet these requirements. The word “should” identifies best practices, recommendations and explanatory notes.

In no instance shall the exercise of a legal right or privilege or the fulfillment of a legal obligation by an organization, its workers or authorized representative be considered a nonconformance with any requirement of this standard. Those asserting these rights shall find alternative methods to conform to the standard consistent with the assertion of those rights.

Note: This standard is designed so it can be integrated with quality, environmental and other management systems within an organization. When the standard states that “the organization shall establish a process,” this is intended to mean that the organization will establish, implement and maintain the identified process.

2. References

2.1 Normative References

There are no normative references to ANSI/ASSP Z10.0.

2.2 Informative References

There are no informative references to ANSI/ASSP Z10.0.

3. Definitions

Acceptable Level of Risk. The level of risk to workers, resulting from exposure to hazards or system deficiencies, that is tolerated by the organization.

Audit. A systematic, independent and documented process for obtaining information and data and evaluating it objectively to determine the extent to which defined audit criteria are fulfilled.

Note: Independent does not necessarily mean from another organization. Independence means not being responsible for the activity being audited or free of bias and conflict of interest. This means you cannot audit your own work.

Compliance. Meeting the requirements of local, state or federal statutes, standards or regulations.