



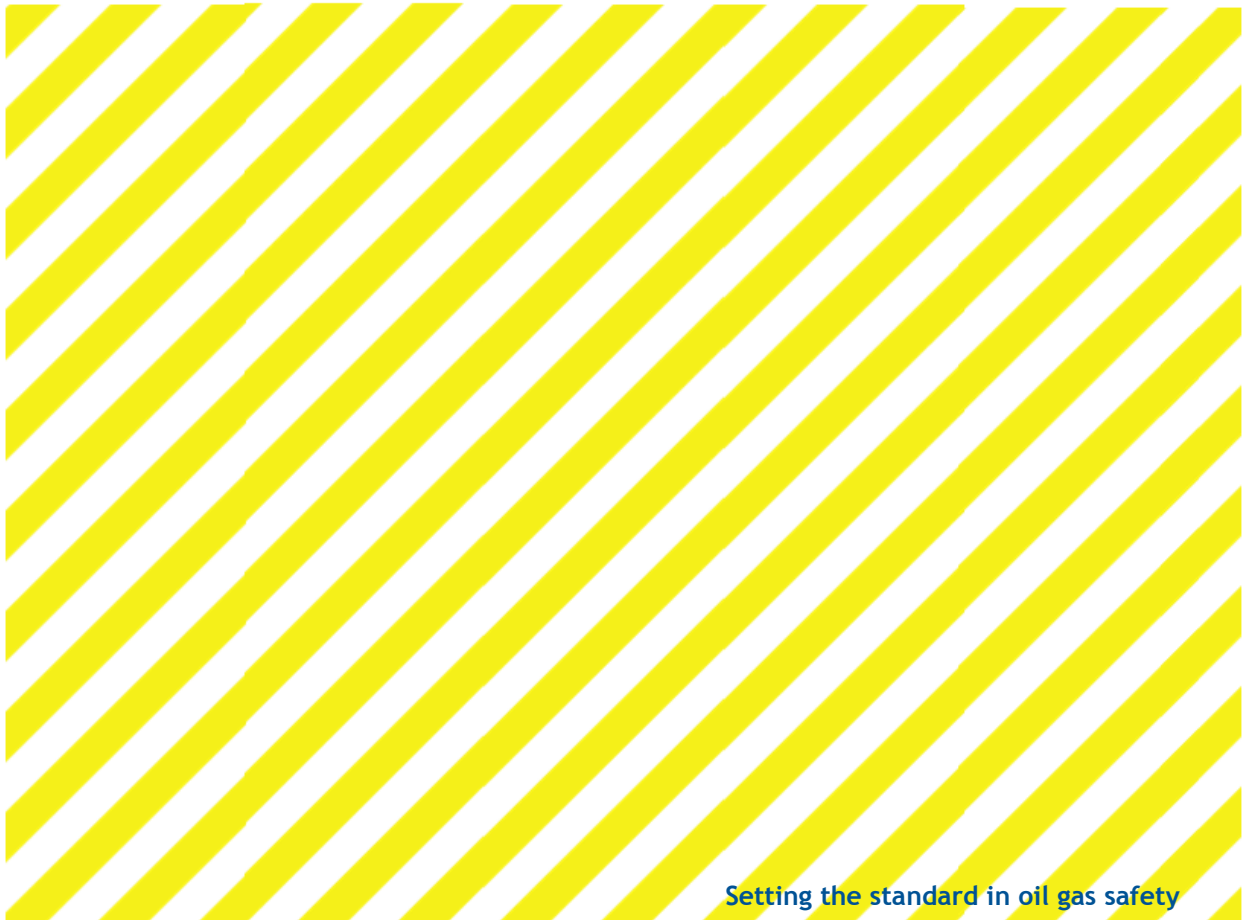
INTRODUCTION TO HEALTH AND SAFETY MANAGEMENT SYSTEMS

A Program Development Guideline

EDITION » 2

REVISED » August 29, 2018

RELEASE DATE » December 22, 2015



ACKNOWLEDGEMENT

This document was developed by Energy Safety Canada with the support of industry. Energy Safety Canada gratefully acknowledges the many individuals who volunteered their time and effort on behalf of:

- Canadian Association of Geophysical Contractors (CAGC)
- Canadian Association of Oilwell Drilling Contractors (CAODC)
- Canadian Association of Petroleum Producers (CAPP)
- Canadian Energy Pipeline Association (CEPA)
- Explorers and Producers Association of Canada (EPAC)
- Petroleum Services Association of Canada (PSAC)

ABOUT ENERGY SAFETY CANADA

Energy Safety Canada is the upstream oil and gas industry's advocate and leading resource for the continuous improvement of safety performance. Our mission is to help companies achieve their safety goals by providing practices, assessment, training, support, metrics and communication.

AVAILABILITY

This document as well as future revisions and additions, is available from:

Energy Safety Canada
5055 11 Street NE
Calgary, Alberta T2E 8N4

TF 1 800 667 5557
T 403 516 8000
F 403 516 8166

EnergySafetyCanada.com



DISCLAIMER

This document is intended to be flexible in application and provide guidance to users rather than act as a prescriptive solution. Recognizing that one solution is not appropriate for all users and situations, it presents generally accepted guidelines that apply to industry situations, as well as recommended practices that may suit a company's particular needs. While we believe that the information contained herein is reliable under the conditions and subject to the limitations set out, Energy Safety Canada does not guarantee its accuracy. The use of this document or any information contained will be at the user's sole risk, regardless of any fault or negligence of Energy Safety Canada and the participating industry associations.

COPYRIGHT/RIGHT TO PRODUCE

Copyright for this document is held by Energy Safety Canada, 2018. All rights reserved. Energy Safety Canada encourages the copying, reproduction and distribution of this document to promote health and safety in the workplace, provided that Energy Safety Canada is acknowledged. However, no part of this publication may be copied, reproduced or distributed for profit or other commercial enterprise, nor may any part be incorporated into any other publication, without the written permission of Energy Safety Canada.

TABLE OF CONTENTS

1.0	Introduction	1
2.0	What is a Health and Safety Management System?	1
3.0	Why Implement a Health and Safety Management System?	3
4.0	Practices of a Health and Safety Management System.....	4
4.1	Practice #1: Management Involvement and Commitment	4
4.2	Practice #2: Hazard Identification and Risk Assessment	5
4.3	Practice #3: Hazard Control	6
4.4	Practice #4: Training	6
4.5	Practice #5: Emergency Response Planning	7
4.6	Practice #6: Incident Reporting and Investigation	7
4.7	Practice #7: Corporate Communication	8
Appendix A:	References	10



1.0 Introduction

This guideline describes to oil and gas employers what a health and safety management system is and why implementing one is not only beneficial but also essential. For guidance on how a health and safety management system is implemented, please refer to Enform's Safety Program Development course.¹

2.0 What is a Health and Safety Management System?

A health and safety management system (HSMS) is a systematic approach put in place by an employer to minimize the risk of injury and illness. It involves identifying, assessing, and controlling risks to workers in all workplace operations. An effective HSMS is a key component of any business; its scope and complexity will vary according to the type of workplace and the nature of its operations.

For both development and implementation of an HSMS to be successful, effective, and efficient, it needs to be based on a formal structure of defined elements. A successful HSMS includes but is not limited to the following seven elements:

1. Management involvement and commitment
2. Hazard identification and assessment
3. Hazard control
4. Training
5. Emergency response
6. Incident reporting and investigation
7. Communications

These seven elements were used to organize Enform's COR Audit Protocol² and are elaborated upon within the Safety Program Development course.³ This guideline will explain why these elements are essential to a successful HSMS.

Continuous Improvement

Beyond a systematic approach, an organization should also commit to continuous improvement. The process of Plan-Do-Check-Act is depicted below in the Canadian Standards Association (CSA) Z1000 Continuous Improvement Model.⁴



Figure 1. CSA Z1000 Continuous Improvement Model

The four phases in the Plan-Do-Check-Act cycle involve:

Plan	Identifying and analyzing the problem
Do	Developing and testing a potential solution
Check	Measuring how effective the test solution was and analyzing whether it could be improved in any way
Act	Implementing the improved solution fully

3.0 Why Implement a Health and Safety Management System?

For all workers and organizations, health and safety should be an expressed value. Studies show that organizations committed to health and safety excellence achieve success through a strong HSMS.ⁱ Many benefits are associated with the development and implementation of an HSMS. Most importantly, an effective HSMS can help prevent injuries and property loss, reduce costs, and support due diligence. Developing a proactive approach to health and safety through an HSMS and its essential elements results in long-term financial and cultural benefits.ⁱⁱ

Compliance with the Law

Provincial and federal occupational health and safety authorities and the Criminal Code of Canada require that employers provide safe work sites for their employees and other workers.ⁱⁱⁱ Implementing and executing an effective HSMS assists with meeting this obligation as well as standards of “due diligence,” a legal phrase referring to a person’s duty to take reasonably practicable actions to protect the well-being of others.^{iv} Not being aware of one’s legal responsibilities and duties is not a defence for non-compliance.^v For an employer, having an effective, functioning HSMS can form the basis for a due diligence defence when an incident results in loss or harm. A company and its workers can demonstrate their commitment to health and safety through an effective HSMS. The elements in this guideline can help a company not only to meet regulatory requirements, but also to exceed them.

Cost Reduction

An effective HSMS can prevent loss and costs from incidents that lead to injuries, illnesses, or death. Workers’ compensation costs can be significant, along with the other costs directly and indirectly related to and incurred when an injury or illness occurs. These costs add directly to operation costs and, in turn, profits.^{vi} As well, a successfully implemented HSMS can prevent loss to property and production, losses from violations of legislation or regulations, lawsuits, and fines.

In addition to the monies saved from fewer incidents, an efficient HSMS leads to additional savings from increased productivity by improving workers’ skills, work practices, and consistency in carrying out critical tasks. Implementation of a successful HSMS also allows an employer to apply for a certificate of recognition (COR), which may result in WCB assessment rebates.

Employee Relations

Commitment to an HSMS demonstrates management concern for ensuring safe operations and thus helps build better employee relations, retain the best employees, and increase the contributions of these workers in achieving business goals. Ensuring that all workers return home in the condition in which they came to work, if not better, justifies the commitment and dedication of resources to an HSMS.



4.0 Practices of a Health and Safety Management System

Through a rigorous literature review, Enform identified seven practices that companies follow to successfully support health and safety in the workplace and produced a white paper titled *Paths to Safety Success: Seven Characteristics to Successful Worksite and Well Site Safety*^{vii} of an HSMS. These practices, described in detail in Enform's Safety Program Development course,^{viii} formed the basis for Enform's COR Audit Protocol.

4.1 Practice #1: Management Involvement and Commitment

What is management involvement and commitment?

Management involvement and commitment can be shown by:

- Allocating dedicated health and safety resources
- Setting clear direction and expectations through health and safety policies
- Assigning and monitoring health and safety responsibilities
- Directly engaging and communicating with workers

Why is management's involvement and commitment important?

An organization's values, visions, and culture are directly related to the commitment and behaviour shown by management. An organization's leadership can significantly affect the HSMS. For the best results throughout an organization, senior management must believe that health and safety is as important as cost, productivity, quality, and employee relations.^{ix} Regulations drive compliance, whereas management focus and employee engagement drive excellence.^x

***The tone at the top is fundamental to any health and safety initiative.*^{xi}**

4.2 Practice #2: Hazard Identification and Risk Assessment

What is hazard identification?

Hazard identification is a process used by a company to identify existing and potential hazards. Examples include but are not limited to:

- Inspections
- Job task analyses
- Site-specific hazard identifications
- Hazard reporting

Why identify hazards?

Companies have a legal obligation to identify hazards and control risks.^{xii} Hazard identification, within the HSMS, is the foundation for all other systems (e.g., emergency response planning, training etc.) It has been proven that identification and control of hazards lead to reduced injury and illness in the workplace.^{xiii}

Reporting is the first step to eliminating injuries altogether.^{xiv}

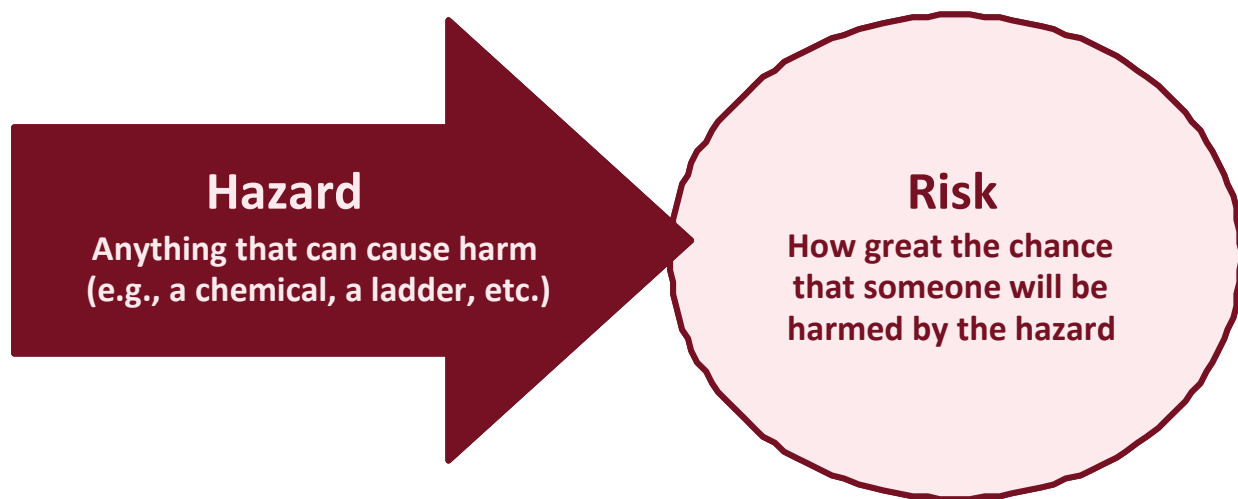


Figure 2. Hazard vs. Risk

What is a risk assessment?

Risk assessment is the identification and analysis, either qualitative or quantitative, of the likelihood of the occurrence of a hazardous event or exposure, and the severity of injury or illness that may be caused by it.^{xv} Primarily, a risk assessment identifies the chance of harm or loss occurring due to a hazard.

Why perform risk assessments?

An effective risk assessment allows an organization to be proactive in regards to health and safety, as opposed to being reactive and dealing with the injuries or illnesses once they occur. It has been recognized that the best, most efficient, and most economical way to eliminate hazards is at the earliest possible stage.^{xvi}

You can't control what you don't know.

4.3 Practice #3: Hazard Control

Hazard control includes the methods, techniques, procedures, and actions taken by a company to reduce, eliminate, or minimize the risks of both health and safety hazards. Hazard controls are defined by the Hierarchy of Controls and include:

- Elimination or substitution
- Engineering controls
- Administrative controls
- Personal protective equipment (PPE), the last line of defence^{xvii}

Why control?

Companies control hazards to eliminate and reduce the risk of harm to employees and equipment. As well, companies have a legal obligation to control their hazards, and it is a due diligence requirement to control known hazards.^{xviii} Statistics show that an effective hazard assessment and control process reduces injury and illness (e.g., wearing seat belts, obeying speed limits, etc.).^{xix}

Hazard control is where safety comes into practice.

4.4 Practice #4: Training

What is training?

Training refers to an organized activity aimed at imparting information and/or instructions to improve the recipient's performance or to help him or her attain a required level of knowledge or skill.^{xx} Training includes but is not limited to:

- Orientations
- Current job- and industry-specific training
- Competency assessment

Why train?

Occupational Health and Safety legislation requires employers to adequately train and ensure competence of employees.^{.xxi} Training helps people acquire the skills, knowledge and attitudes to make them competent in the health and safety aspects of their work.^{.xxii} Effective employee training will assess training needs and integrate the HSMS elements into daily operations. Health and safety training itself is an administrative-level hazard control designed to decrease injuries.^{.xxiii}

Incident prevention is a people issue.

4.5 Practice #5: Emergency Response Planning

What is emergency response planning?

Emergency response planning refers to the methods, techniques, procedures, and actions the organization has put in place to respond to potential emergencies (e.g., fire, explosion, etc.). The plan should include but not be limited to:

- The responsibilities and training of key people at emergency sites and offices
- Adequate resources in place
- Various emergency and post-emergency procedures
- Drills and evaluations to measure effectiveness

Why plan?

Legally, an employer must have a response plan for any emergency that may require the rescue or evacuation of workers.^{.xxiv} Only through appropriate preparedness can the consequences of an emergency be minimized.

Prevention is 100% mitigation.^{.xxv}

4.6 Practice #6: Incident Reporting and Investigation

What is incident reporting and investigation?

Incident reporting and investigation are reactions triggered by an event. In addition to reporting and investigating the incident, statistics should be recorded and analysed to identify trends and needs.

Why report and investigate?

Employers have a legal obligation and a workers' compensation insurance requirement to ensure incident reports and investigations are completed.^{.xxvi} Incident reporting and investigation contribute to the corporate memory. These memories demonstrate failures in

existing systems and assist in learning from these failures so we can prevent similar or worse loss in future. The trending reports that are produced from investigating and reporting incidents can be used to identify deficiencies in the system so that corrections and improvements can be made.

Investigate failures to prevent failures.

4.7 Practice #7: Corporate Communication

What is corporate communication?

Corporate communication refers to a company's formal or informal verbal, written, or unwritten policies, plans, standards, and procedures. Successful communication is a two-way process that leads to employee engagement. Communications are conducted through general meetings; joint workplace health and safety committee meetings; written messages; and daily, informal communication between supervisors and their employees, contractors, and subcontractors.^{xxvii} Communication that effectively supports implementation and monitoring of the HSMS include both evaluation and record keeping.

What is evaluation?

Evaluation includes but is not limited to:

- Audits
- Assessments
- Corrective actions

What is record keeping?

Record keeping is a systematic procedure by which the records of an organization are created, captured, maintained, and disposed of.^{xxviii}

Why communicate?

Communication is the demonstration of the management's commitment to the HSMS. Employers are legally obligated to communicate health and safety practices to their employees.^{xxix} Good, consistent communication and employee engagement may result in reduction of injuries and illnesses as well as improved performance. Effective communication is essential to ensure employees understand policies, procedures, and the requirements to perform their jobs safely and to implement the HSMS fully.

Why evaluate?

Audits evaluate the content of the HSMS against a recognized standard or an internal program to determine the effectiveness of the system and promote continuous improvement. Audits can assist a company in applying for a certificate of recognition (COR), which may result in WCB assessment rebates.

Why keep records?

Companies keep records to preserve them for evidential purposes, efficient updating, and timely availability.^{xxx}

Communication works for those who work at it.^{xxxi}



Appendix A: References

1. Enform. *Paths to Safety Success: Seven Characteristics to Successful Worksite and Well Site Safety*. Calgary: Enform, 2011. PDF e-book.
2. Ibid.
3. "Department of Justice: Criminal Code," Government of Canada, last modified July 7, 2011, <http://laws-lois.justice.gc.ca/eng/acts/C-46/>.
4. "OH&S Legislation in Canada – Due Diligence," Canadian Centre for Occupational Health and Safety, last modified January 15, 2008, <http://www.ccohs.ca/oshanswers/legisl/diligence.html>.
5. WSIB and Canadian Manufacturers & Exporters. *Business Results Through Health and Safety*. Ontario: WSIB, n.d. PDF e-book.
6. [Ibid.](#)
7. Enform. *Paths to Safety Success: Seven Characteristics to Successful Worksite and Well Site Safety*. Calgary: Enform, 2011. PDF e-book.
8. "Safety Program Development," Enform, http://ww2.enform.ca/training/Course_Details.aspx?courseID=188.
9. Dupont (1991). *Managing Safety: Systems that Work for Operations Managers*. Wilmington: E.I. du Pont de Nemours and Company, 1991.
10. Hawthorne, D. *The Tone at the Top*. (2009) <http://www.e-library.ca>.
11. Ibid.
12. HATSCAN. *HANDI-GUIDE to Alberta's OH & S Act, Regulation and Code*. (Edmonton: HATSCAN, 2006), 96.
13. Dupont (1991). *Managing Safety: Systems that Work for Operations Managers*. Wilmington: E.I. du Pont de Nemours and Company, 1991.
14. Slack, R. *The Goal is Zero*. (2009) <http://www.e-library.ca>.
15. Rankin, Elizabeth. *Occupational Health and Safety Management*. CSA Standards, 2011. PDF e-book.
16. Alberta Human Resources and Employment. *Workplace Health and Safety: Best Practices Inventory*. CCOHS, 2005. PDF e-book.
17. "Hazard Control," Canadian Centre for Occupational Health and Safety, last modified April 20, 2006, http://www.ccohs.ca/oshanswers/hsprograms/hazard_control.html.
18. "OH&S Legislation in Canada – Due Diligence," Canadian Centre for Occupational Health and Safety, last modified January 15, 2008, <http://www.ccohs.ca/oshanswers/legisl/diligence.html>.
19. "Evaluation of the Effectiveness of Air Bags and Seat Belts," Transport Canada, last modified 2009, <http://www.tc.gc.ca/eng/roadsafety/tp-tp2436-rs200103-menu-125.htm>.
20. *Business Dictionary*, s.v. "Training," <http://www.businessdictionary.com/definition/training.html>.
21. HATSCAN. *HANDI-GUIDE to Alberta's OH & S Act, Regulation and Code*. Edmonton: HATSCAN, 2006.

-
22. Health and Safety Executive. *Successful Health and Safety Management*. United Kingdom: HSE Books, 1997. PDF e-book.
 23. Kaminski, Michelle. "Unintended consequences: Organizational practices and their impact on workplace safety and productivity." *Journal of Occupational Health Psychology* (April 2001): S127-S138. doi: 10.10137/1076-8998.6.2.127.
 24. HATSCAN. *HANDI-GUIDE to Alberta's OH & S Act, Regulation and Code*. (Edmonton: HATSCAN, 2006), 116.
 25. *Wikipedia*, s.v. "Emergency Management," last modified July 9, 2011, http://en.wikipedia.org/wiki/Emergency_management.
 26. HATSCAN. *HANDI-GUIDE to Alberta's OH & S Act, Regulation and Code*. (Edmonton: HATSCAN, 2006), 22.
 27. HATSCAN. *HANDI-GUIDE to Alberta's OH & S Act, Regulation and Code*. (Edmonton: HATSCAN, 2006), 138.
 28. *Business Dictionary*, s.v. "Recordkeeping System," <http://www.businessdictionary.com/definition/recordkeeping-system.html>.
 29. HATSCAN. *HANDI-GUIDE to Alberta's OH & S Act, Regulation and Code*. (Edmonton: HATSCAN, 2006), 10.
 30. *Business Dictionary*, s.v. "Recordkeeping System," <http://www.businessdictionary.com/definition/recordkeeping-system.html>.
 31. *Brainy Quote*, s.v. "John Powell Quotes," <http://www.brainyquote.com/quotes/quotes/j/johnpowell163805.html>.

CALGARY

T 403 516 8000 5055 11 Street NE
F 403 516 8166 Calgary, AB T2E 8N4

NISKU

T 780 955 7770 1803 11 Street
F 780 955 2454 Nisku, AB T9E 1A8

FORT MCMURRAY

T 780 791 4944 Box 13 - 8115 Franklin Avenue
F 780 715 3945 Fort McMurray, AB T9H 2H7

BRITISH COLUMBIA

T 250 785 6009 2060 - 9600 93 Avenue
F 250 785 6013 Fort St. John, BC V1J 5Z2

SASKATCHEWAN

T 306 842 9822 208 - 117 3 Street
F 306 337 9610 Weyburn, SK S4H 0W3

Info@EnergySafetyCanada.com
Enrolment Services and Certificate of Recognition:
1 800 667 5567

EnergySafetyCanada.com

