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Incident investigation

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Preface

This is the first edition of CSA Z1005, *Incident investigation*. This Standard replaces CAN/CSA-Z796, *Accident information*, published in 1998.

This Standard outlines incident investigation and prevention principles and requirements, the purpose of which is to determine causes and to prevent work-related incidents. As used in this Standard, the term “incident” refers to an occurrence, condition or situation arising in the course of work that resulted in, or could have resulted in, injury, illness, damage to health, or fatality. As used in this Standard, the term “data” refers to information collected during an incident investigation for reference or analysis.

CSA Z1005 adheres to management system principles, such as those set out in CSA Z1000, *Occupational health and safety management*. Use of Z1005 is not contingent on an organization having an occupational health and safety management system (OHSMS); however, it does specify a Plan-Do-Check-Act cycle to ensure that management system deficiencies are identified and addressed.

CSA Z1005 also complements CSA Z1002, *Occupational health and safety – Hazard identification and elimination and risk assessment and control*. When hazards are identified and eliminated, and when risk is assessed and controlled in accordance with the principles in CSA Z1002, then the number of work-related incidents can be reduced or prevented. CSA Z1005 encourages the use of these investigative principles as a prevention tool. Principles in this standard are designed to be used before, during, or after an event to effectively respond to – or ideally, proactively eliminate – that event, similar events, or other safety deficiencies identified during the investigation, taking investigative principles beyond the traditional approach. The principles of this Standard are intended to be scalable.

This Standard was prepared by the Technical Committee on Incident Investigation and Prevention, under the jurisdiction of the Strategic Steering Committee on Occupational Health and Safety, and has been formally approved by the Technical Committee.

Notes:

- 1) Use of the singular does not exclude the plural (and vice versa) when the sense allows.
- 2) Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.
- 3) This Standard was developed by consensus, which is defined by CSA Policy governing standardization — Code of good practice for standardization as “substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity”. It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this Standard.
- 4) To submit a request for interpretation of this Standard, please send the following information to inquiries@csagroup.org and include “Request for interpretation” in the subject line:
 - a) define the problem, making reference to the specific clause, and, where appropriate, include an illustrative sketch;
 - b) provide an explanation of circumstances surrounding the actual field condition; and
 - c) where possible, phrase the request in such a way that a specific “yes” or “no” answer will address the issue.

Committee interpretations are processed in accordance with the CSA Directives and guidelines governing standardization and are available on the Current Standards Activities page at standardsactivities.csa.ca.
- 5) This Standard is subject to review within five years from the date of publication. Suggestions for its improvement will be referred to the appropriate committee. To submit a proposal for change, please send the following information to inquiries@csagroup.org and include “Proposal for change” in the subject line:
 - a) Standard designation (number);
 - b) relevant clause, table, and/or figure number;

- c) *wording of the proposed change; and*
- d) *rationale for the change.*

Z1005-17

Incident investigation

0 Introduction

0.1 General

This incident investigation and prevention Standard has been developed to modernize CAN/CSA-Z796 and to incorporate a strong focus on the prevention of work-related incidents. Despite an ongoing and increasing focus on occupational health and safety in Canada, work-related incidents are continuing to occur.

This Standard is designed to be used with related occupational or technical standards. It is intended to be referenced by other Standards as the primary set of requirements for the management of occupational health and safety incident investigation and prevention.

This Standard can be incorporated into an existing occupational health and safety management system (OHSMS) or used independently by an organization to proactively and systematically plan for and respond to incidents.

While not specifically addressed in this Standard, some incidents might require a regulatory or criminal investigation. In these instances, the organization needs to be aware that all data captured through the course of the investigation could be considered evidence in a regulatory enforcement or criminal proceeding. Organizations need to be aware of any legislation that could apply, or local authorities that need to be notified.

Incident investigation legislation differs from jurisdiction to jurisdiction in Canada. It is the user's responsibility to determine how applicable legislative requirements relate to this Standard.

0.2 Guiding principles of successful incident investigation and prevention

This Standard is based on the following guiding principles:

- a) legislated incident investigation requirements are a minimum standard of practice;
- b) incident investigation provides the greatest opportunity for improvement when it is used as a tool for prevention;
- c) it is preferable to use risk assessment principles early in the design of a work system, rather than use incident investigation to solve issues afterwards;
- d) it is preferable to utilize a systems approach to identify and determine the influence of the workplace system on the occurrence of the incident (see Annex H);
- e) worker participation is essential to the success of incident investigation and prevention;
- f) effective investigations analyze all possible factors, and present findings and recommendations as an opportunity to prevent further occurrences or to improve the practices and processes within the organization; and
- g) the effectiveness of an incident investigation and prevention program is maximized when it is integrated into the organization's OHSMS, where one exists.

0.3 Organization of this Standard

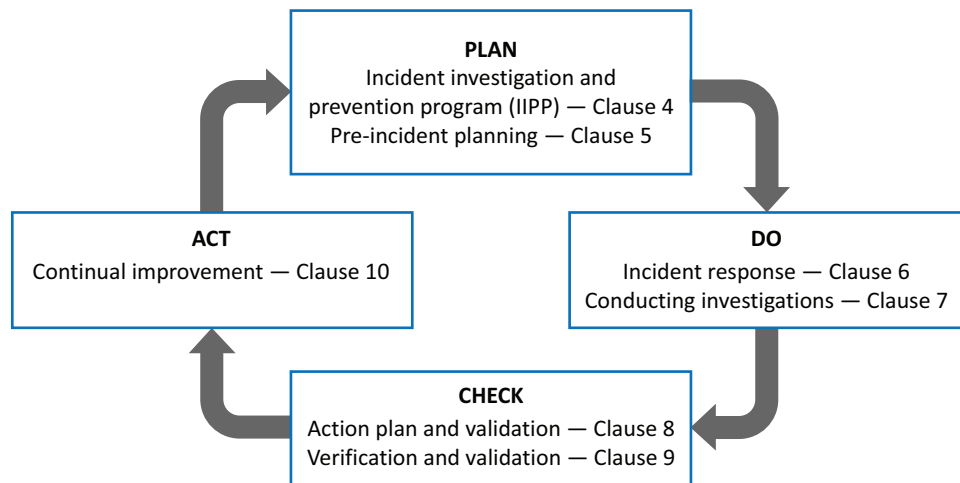
This Standard specifies requirements for and provides guidance on the activities required to manage all aspects of incident investigation in accordance with the plan-do-check-act cycle and management system principles, such as those set out in CAN/CSA-Z1000.

The requirements of this Standard are organized into four main topics as follows (see Figure 1):

- a) **PLAN** — Clauses 4 and 5 specify the elements of an incident investigation and prevention program, pre-incident planning, and a prepared approach;
- b) **DO** — Clauses 6 and 7 specify requirements for immediate incident response, and conducting incident investigations with a prevention focus;
- c) **CHECK** — Clauses 8 and 9 specify requirements related to corrective actions and reviews within the incident investigation and prevention program; and
- d) **ACT** — Clause 10 specifies requirements for continual improvement in both the incident investigation and prevention program and the OHSMS.

This Standard contains Annex material which provides tools and guidance for many parts of the Standard. The reader is encouraged to refer to the Annexes to gain a deeper understanding of the purpose and intent for Standard clauses for which guidance has been provided.

Figure 1
Organization of this Standard
(See Clause 0.3.)



1 Scope

1.1 General

This Standard specifies requirements for an occupational health and safety (OHS) incident investigation and prevention program (IIPP).

This Standard can be applied by organizations of any size or type.

This Standard is intended to address investigations related to occupational health and safety.

This Standard does not specify requirements for criminal or regulatory enforcement investigations.

Notes:

- 1) *The investigation principles of this standard can be applied to non OHS investigations such as environmental incidents.*
- 2) *Some investigations will involve, or evolve into, a criminal or regulatory investigation. Organizations need to plan for this possibility.*

1.2 Terminology

In this Standard, “shall” is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard; “should” is used to express a recommendation or that which is advised but not required; and “may” is used to express an option or that which is permissible within the limits of the standard.

Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate it from the text explanatory or informative material.

Notes to tables and figures are considered part of the table or figure and may be written as requirements.

Annexes are designated normative (mandatory) or informative (non-mandatory) to define their application.

1.3 Units of measure

The values given in SI units are the units of record for the purposes of this Standard. The values given in parentheses are for information and comparison only.

2 Reference publications

This Standard refers to the following publications, and where such reference is made, it shall be to the edition listed below, including all amendments published thereto.

CSA Group

CAN/CSA-Z796-98 (R2013)

Accident information

CAN/CSA-Z1000-14

Occupational health and safety management

CAN/CSA-Z1002-12

Occupational health and safety — Hazard Identification and elimination and risk assessment and control

CAN/CSA-Z1003-13/BNQ 9700-803/2013

Psychological health and safety in the workplace – Prevention, promotion, and guidance to staged implementation

Z1004-12 (R2017)

Workplace ergonomics — A management and implementation standard

Z1010 (under development)

Management of work in extreme conditions

Z1600-14

Emergency and continuity management program

3 Definitions and abbreviations

3.1 Definitions

The following definitions shall apply in this Standard:

Authority having jurisdiction — an organization or their representative responsible for administering legislation.

Causal factors — the condition(s), event(s), omission(s), deficiency(ies) or action(s) that contributed directly to the incident.

Contributing factors — the condition(s), event(s), omission(s), deficiency(ies) or action(s) that contributed indirectly to the incident.

Note: *Contributing factors are those factors, if eliminated, that would not necessarily prevent the incident, but could help prevent future incidents.*

Competence — the demonstrated ability to apply OHS knowledge and skills to the incident investigation processes.

Data — information collected during the course of an investigation for reference or analysis.

Notes:

- 1) *Data can be in the form of document(s), record(s), statement(s), interview(s), picture(s), video(s), material(s), equipment, tool(s), information, statistic(s), etc.*
- 2) *In some investigations, data may be referred to as evidence.*
- 3) *Data can include discovery of non-incident related data that, although not directly related to the incident, could potentially pose a hazard or identify a deficiency.*

Document — a medium containing data relevant to the IIPP.

Emergency responders — the external persons who ensure public safety and health by addressing emergencies [e.g., fire, police, emergency medical services (EMS)].

Event — an occurrence that is related to the incident.

First responder(s) — the individual(s) authorized, trained, and qualified to act first at a scene to provide a primary response to an incident.

Incident — an occurrence, condition, or situation arising in the course of work that resulted in, or could have resulted, in injuries, illnesses, damage to health, or fatalities.

Health — a state of complete physical, social, and mental well-being, and not merely the absence of disease or infirmity.

Source: *World Health Organization (WHO).*

Investigation team — the person or people assigned by an organization to perform investigations as described in this Standard.

Legal requirements — the applicable OHS federal, provincial/territorial, and municipal laws, regulations, and bylaws, and where applicable, provisions of the organization’s collective agreements that relate to health and safety.

Other requirements — the other OHS provisions required by the organization.

Note: *These requirements could include codes, standards, policies, procedures, or collective agreements.*

Procedure — a documented method to carry out an activity.

Process — a set of interrelated or interacting activities that transforms inputs into outputs.

Program — a documented set of interrelated requirements that direct activity toward a goal.

Record — a document that states results achieved or provides evidence of activities performed.

Senior management — the person(s) at the highest level of an organizational structure responsible for leading, managing, and/or directing an organization.

Scene — the location where an incident occurred.

Worker — a person employed by the organization or a person under the day-to-day control of the organization, whether paid or unpaid.

Note: *This definition of “worker” includes employees, supervisors, managers, team leaders, contractors, service providers, volunteers, agency workers, and students or others actively engaged in undertaking activities for benefit to the organization.*

Worker representative — a non-managerial worker who is

- a) a member of a workplace health and safety committee;
- b) a representative of other workers according to the requirements of law or collective agreements;
- or
- c) selected by non-managerial workers for other reasons.

Workplace — any location in which work-related activities under the control of the organization are performed.

3.2 Abbreviations

The following abbreviations shall apply in this Standard:

- IIPP — incident investigation and prevention program
- OHS — occupational health and safety
- OHSMS — occupational health and safety management system
- PPE — personal protective equipment

4 Incident investigation and prevention program (IIPP)

4.1 General

The organization shall establish, implement and maintain a documented IIPP in accordance with the requirements of this Standard. The IIPP shall be integrated into, or compatible with, the other management systems in the organization, where they exist or if they exist.

4.2 Management commitment and leadership

4.2.1 Responsibility, authority, and accountability

The organization shall designate one or more representatives of senior management to provide leadership for an IIPP that is in accordance with the requirements of this Standard. Senior management shall assume overall responsibility, authority, and accountability for the IIPP. Senior management responsibilities shall include

- a) establishing, implementing, and maintaining an incident investigation policy (Clause 4.3);
 - b) defining roles, assigning responsibilities, establishing accountability, and designating authority to establish, implement, and maintain the IIPP (Clauses 4.2.2 and 4.4.1);
 - c) identifying competing demands and setting priorities to ensure compliance with the IIPP;
 - d) defining the competencies required by person(s) performing the roles in the IIPP and confirming that each is competent to perform assigned duties and responsibilities (Clause 4.2.2);
 - e) establishing, implementing and maintaining a process for the active participation of workers (and worker representatives where they exist) in the establishment and maintenance of the IIPP and during an investigation (Clause 4.2.3);
 - f) emphasizing the importance of incident prevention in the IIPP (Clause 4.4.1);
 - g) maintaining documents and records in accordance with the requirements of this Standard (Clause 4.4.4);
 - h) providing supervision to protect workers' health and safety during incident investigation (Clause 5.6.1.2);
 - i) providing financial, human, and organizational resources to plan, implement, check, review and correct the IIPP (Clauses 5.3 and 8);
 - j) establishing, implementing and maintaining a process to identify deficiencies and develop and monitor the effectiveness of corrective actions implemented to address those deficiencies (Clause 8);
- Note:** *The IIPP should identify organizational issues that could impact other organizational systems or processes. (e.g., staffing, fatigue, purchasing). The IIPP should link to these other systems in a manner that supports organizational continual improvement.*
- k) establishing, implementing, and maintaining a process for continual improvement of the IIPP (Clause 10); and
 - l) reviewing the organization's IIPP at planned intervals (Clause 10).

4.2.2 Management representatives

The organization shall designate one or more representatives, including one from senior management, who, irrespective of other responsibilities, have defined roles, responsibilities, and authority for ensuring that an IIPP is established, implemented, and maintained in accordance with the requirements of this Standard.

These responsibilities shall include

- a) establishing processes to develop, implement and manage the IIPP;
- b) establishing processes to plan, initiate and oversee incident investigations;
- c) reporting on the findings, conclusions and recommendations of incident investigations;
- d) supporting active participation of workplace parties;
- e) developing, implementing, and validating corrective actions; and
- f) providing feedback to the organization's prevention, validation, and continual improvement process.