CGA P-86—2020

GUIDELINE FOR PROCESS SAFETY MANAGEMENT

FIRST EDITION

CGA
Compressed Gas Association
The Standard For Safety Since 1913

PREFACE

As part of a program of harmonization of industry standards, the Compressed Gas Association (CGA) has published CGA P-86, *Guideline for Process Safety Management*, jointly produced by members of the International Harmonization Council.

This publication is intended as an international harmonized standard for the worldwide use and application of all members of the Asia Industrial Gases Association (AIGA), Compressed Gas Association (CGA), European Industrial Gases Association (EIGA), and Japan Industrial and Medical Gases Association (JIMGA). Each association's technical content is identical, except for regional regulatory requirements and minor changes in formatting and spelling.

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Work Item 17-094
Process Safety Committee

NOTE—Appendix A (Informative) is for information only.

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1 Introduction

Process safety management is of interest to many organizations looking to adopt a holistic and systematic approach to assuring the integrity of their operations.

This publication was adapted from the Energy Institute's document *High Level Framework for Process Safety Management* to be more specific to the industrial gases industry [1].[1]

The reader may choose to follow other process safety management systems such as the one developed by the American Institute of Chemical Engineers (AIChE) Center for Chemical Process Safety (CCPS) [2]. For sites that are required to follow U.S. Occupational Safety and Health Administration (OSHA) PSM regulations or the U.S. Environmental Protection Agency (EPA) RMP rule, those rules take precedence [3, 4].

For the purpose of this publication, process safety management refers to providing guidance to improve process safety in industrial gas facilities. It is not meant to refer to the OSHA Process Safety Management regulations.

Appendix A lists other publications that are relevant to process safety management.

2 Scope

The process safety management framework may be applied to all processes within the industrial and medical gases industry. It is designed to address process safety hazards and be equally suitable for the processes that are found in the industry including:

- air separation units (ASU) and nitrogen generator facilities;
- hydrogen and carbon monoxide (HYCO) production facilities including electrolysis facilities;
- hydrogen purification units;
- acetylene production facilities;
- nitrous oxide production facilities;
- carbon dioxide production facilities;
- cylinder and container filling facilities;
- specialty gas production, package filling, and storage facilities;
- chemical handling and transport facilities;
- pipelines;
- transportation; and
- customer installations.

A facility may include not just the main production plant but all other ancillary equipment that has process hazards.

The decision to apply various process safety management elements to a given process needs to be made by evaluating the tolerance of risk and agreeing on the management approach. For example, transportation and pipeline risks may be managed by applying national and international codes and might not require all the elements of the process safety management framework to be applied.

In some countries, there can be existing regulatory requirements for process safety management systems. This framework is not intended to replace these requirements but may be used to supplement them for all industry regardless of regulatory requirements.

[1] References are shown by bracketed numbers and are listed in order of appearance in the reference section.