

ICS 13.200
CCS E09



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 44693.1-2024

**Process stability of hazardous chemical enterprises - Part 1:
Management guidelines**

危险化学品企业工艺平稳性 第1部分：管理导则

Issued on: September 29, 2024

Implemented on: April 1, 2025

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

Table of Contents

- 1 Scope
- 2 Normative references
- 3 Terms and definitions

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1. Structure and drafting rules for standardization documents" Drafting. This document is part 1 of GB/T 44693 "Process stability of hazardous chemicals enterprises". GB/T 44693 has been published as follows part.

1. Management guidelines;

2. Technical specifications for control loop performance evaluation and optimization. Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents. This document was proposed and coordinated by the National Technical Committee for Standardization of Hazardous Chemicals Management (SAC/TC251). This document was drafted by: Sinopec Safety Engineering Research Institute Co., Ltd., Chemical Registration Center of the Ministry of Emergency Management, Sinopec National Petrochemical Project Risk Assessment Technology Center Co., Ltd., China Petrochemical Corporation, Sinopec Qingdao Refining and Chemical Co., Ltd., Sino-Korean (Wuhan) Petrochemical Co., Ltd., China Petrochemical Corporation Shijiazhuang Refining and Chemical Company, Wanhua Chemical Group Co., Ltd. Company, Sinochem Blue Sky Group Co., Ltd., Shandong Huaxia Shenzhou New Materials Co., Ltd., Supcon Technology Co., Ltd., Shandong Jingbo Petrochemical Co., Ltd., China Petroleum Engineering Construction Co., Ltd. North China Branch, Qingdao Gulf Group Co., Ltd., Shandong Lutai Chemical Co., Ltd., Shandong Haihua Hualong New Materials Co., Ltd., Anhui Jinhe Industrial Co., Ltd., Shanghai Huayi Tianyuan Chemical Logistics Co., Ltd., Xinjiang Guang Huitan Technology Comprehensive Utilization Co., Ltd. The main drafters of this document are. Yang Zhe, Xu Wei, Wang Chunli, Zhou Jianhua, Li Peng, He Yadong, Sun Bing, Gou Chengdong, Ma Guofeng, Wang Lei, Gao Na, Zhang Jiedong, Chen Gang, Xu Baoyan, Qi Qingxuan, Yu Lei, Zhang Hongliang, Zeng Miaoyang, Zhang Shuai, Jiang Weiwei, Wang Ting, Yang Yong, Wang Yaowei, Zhang Haiyuan, Jian Jianchao, Teng Xiao, Gong Shaoqing, Gao Xinjiang, Li Chuankun, Yuan Zhuang, Wu Chuanpeng, Lin Yang, Li Rongqiang, Wang Feng, Lu Weizhou, Yan Bin, Zhou Zhongze, Cao Jinxin, Tang Zaifeng, Yongchun Chen, Jianwei Wang, Yi Zhang, Xuebo Xu,

Weiwei Gong, Chaoyang Zhang, Dingding Wang, Tao Li, Yan Kang, Hongqi Chen, Le Yang, Jiangqin Zhan, Jingtao Song.

Process stability is the basis for the sustainable development and innovation of hazardous chemical production enterprises. The status quo of process management in chemical production enterprises, the construction of GB/T 44693 "Process stability of hazardous chemicals enterprises" comprehensive management system, innovation and upgrading The first-level process management model builds a scientific, efficient and standardized process operation control mechanism to effectively prevent and resolve hazardous chemicals. To reduce major safety risks in manufacturing enterprises, it is of great significance to ensure the smooth and safe production process. GB/T 44693 "Process Stability of Hazardous Chemicals Enterprises" is intended to consist of the following 6 parts.

- 1.Management guidelines. The purpose is to determine the general principles and relevant requirements that need to be followed for process stability management.
- 2.Technical specification for control loop performance evaluation and optimization. The purpose is to provide control loop performance evaluation and optimization for process stability management. Provides actionable and verifiable methods for assessment and optimization.
- 3.Standard operating procedures preparation and use specifications. The purpose is to clarify the standard operating procedures in process stability management (Work Instructions) Principles and requirements that need to be followed in writing and using.
- 4.Start-up process management specifications. The purpose is to determine the requirements for the start-up management of the device in process stability management. basic principles and working norms.
- 5.Technical specification for process alarm optimization. The purpose is to provide operational A proven method.
- 6.Technical specifications for key performance indicators. The purpose is to provide operational, Verifiable indicators and calculation methods. This document aims to comprehensively guide hazardous chemical manufacturers to carry out process management, and to establish a systematic thinking of process stability control. process, continuously strengthen the process management, improve the stability of equipment production, reduce abnormal fluctuations, ensure that production meets the expected goals, and continuously Improve the level of refinement and standardization of enterprise process management. Process stability of hazardous chemical enterprises Part

1 Scope

GB/T 44693.1-2024 is the management guideline part of the Chinese standard on process stability in hazardous chemical enterprises. The premise is one that Chinese process safety

regulation has arrived at after a series of major accidents: most serious incidents are preceded by a period in which the plant is not running steadily, with parameters excursions, alarms flooding, interlocks bypassed and operators intervening manually, and the instability itself is therefore a leading indicator that can be managed. The standard sets the management framework: the definition and scope of process stability, the responsibilities and organisation, the identification of the critical process parameters and their stable operating envelopes, the monitoring and the indicators including alarm rates, operator interventions, parameter excursions and interlock bypasses, the analysis of instability and its causes, the control and improvement measures, the management of change and of temporary operation, the training and the assessment, and the continuous improvement cycle. It takes effect on 1 April 2025.

This document specifies the general principles, leadership, planning, support, operation process control, performance management, and other aspects of process stability management for hazardous chemical production enterprises. Management requirements for process stability management elements such as efficiency evaluation and improvement. This document applies to process stability management of hazardous chemical production enterprises.

Note. In order to avoid confusion, the "hazardous chemical production enterprises" in this document are hereinafter referred to as "enterprises".

2 Normative references

GB/T 44693.2 Process stability of hazardous chemical enterprises Part

3 Terms and definitions

The terms and definitions defined in GB/T 44693.2 and the following apply to this document.

3.1 Process stability The enterprise's production process is under safe, stable, efficient and controlled state.

Note. It reflects the comprehensive characteristics of the device process safety, reliability and economy.

3.2 In order to ensure the stability of the enterprise process, the principles, goals, plans and activities established, as well as the planning, implementation and inspection of the above contents and the organizations and procedures necessary for continual improvement.

3.3 Measurable management results of various activities of the enterprise for process stability management.

3.4 Operating procedures In order to ensure the safety, product quality and efficiency of hazardous chemicals production, Standard operating procedures developed for the project.

Note. Documents used to help employees understand relevant production processes, master operating skills, and promptly identify and handle potential hazards.

3.5 Process sheet Technical documents or tools that clearly define the control scope of key indicators such as device operation, safety, environmental protection, and quality.

3.6 Start-up and shut-down Start-up. A series of activities to transform the equipment from a stopped state to a normal production state and produce the target product.

chinastandards.org - PREVIEW