ICS 91.140.90
CCS Q78

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 42615-2023

Specifications for safety estimation of existing lifts

在用电梯安全评估规范

Issued on: May 23, 2023 **Implemented on: May 23, 2023**

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

Table of Contents

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: Please note that some contents of this document may refer to patents: The issuing agency of this document assumes no responsibility for identifying patents: This document is proposed and managed by the National Elevator Standardization Technical Committee (SAC/TC196): This document is drafted by: Shanghai Special Equipment Supervision and Inspection Technology Research Institute, Shanghai Mitsubishi Elevator Co:, Ltd:, Shanghai Jiaotong University, China Academy of Building Research Co:, Ltd: Building Mechanization Research Branch, Schindler (China) Elevator Co:, Ltd:, Zhejiang Special Equipment Research Institute Research Institute, Otis Elevator (China) Investment Co:, Ltd:, Kone Elevator Co:, Ltd:, Hitachi Elevator (China) Co:, Ltd:, Guangdong Special Equipment Testing Research Institute, Yongda Elevator Equipment (China) Co:, Ltd:, Disheng Elevator (Shanghai) Co:, Ltd:, Anhui Special Equipment Testing Institute, Beijing Special Equipment Inspection and Testing Research Institute, Otis High Speed Elevator (Shanghai) Co:, Ltd:, Guangzhou Guangri Elevator Industry Co:, Ltd:, Xiamen Special Equipment Inspection and Testing Institute, Chongqing Special Equipment Inspection and Research Institute, Jiangsu Special Equipment Safety Supervision and Inspection Institute, Jianyan Machinery Inspection and Inspection Institute Testing (Beijing) Co:, Ltd:, Dongguan Testing Institute of Guangdong Special Equipment Testing Research Institute, Toshiba Elevator (China) Co:, Ltd:, Lingwang Elevator Co:, Ltd: Company, Canny Elevator Co:, Ltd:, Xiji Schindler Elevator Co:, Ltd:, Xizi Elevator Technology Co:, Ltd:, Huasheng Fujitec Elevator Co:, Ltd: Company, Giant KONE Elevator Co:, Ltd:, Sicher Elevator Co:, Ltd:, Weber Elevator Co:, Ltd:, Sunlong

Elevator Co:, Ltd:, Suzhou Inovance Technology Co:, Ltd:, Shanghai New Star Electric Co:, Ltd:, Zhongshan Testing Institute of Guangdong Provincial Special Equipment Testing Research Institute, Yichun City Special Equipment Supervision and Inspection Center, Shandong Fuji Control Elevator Co:, Ltd:, Julong Elevator Co:, Ltd:, Tongyou Elevator Co:, Ltd:, Guangdong Suzuki Electric Co:, Ltd: Elevator Co:, Ltd:, Zhejiang Meilun Elevator Co:, Ltd:, Suzhou Boliang Elevator Technology Co:, Ltd:, Hebei Monteferro Guide Rail Co:, Ltd:, Hebei North East Fuda Machinery Co:, Ltd: The main drafters of this document: Shu Wenhua, Ouyang Huiqing, Chen Fan, Zhang Peng, Chen Fengwang, Guo Zhixin, Lin Zheng, Zhang Jinzhong, Bu Lingwei, Mao Xinhang, Ren Xin, Zou Zhiwen, Zhang Shoulin, Xu Lin, Wang Xiaolun, Tian Hongliang, He Yunlang, Lai Yueyang, Lu Xiao, Ye Liang, Pan Guolin, Zhou Chunming, Zhang Hongliang, Chu Yingjun, Cai Qingxi, Zheng Yao, Gao Qipeng, Lulujun, Wang Zhenxing, Wu Jianping, Fei Quanqian, Jing Huajun, Qian Guohua, Sun Qiang, Dong Lipeng, Peng Chengdan, Liu Fei, Wang Yulei, Shen Guohua, Sun Weigang, Yuan Shaoyun, Shen Fu, Li Jun, Li Weiping, Ren Yuzhu:

1 In accordance with the method given in GB/T 20900-2007, this document carries out risk assessment on the elevator equipment body and construction-related items in use: Based on this, the safety evaluation method and procedure of the elevator in use are given: 0:

2 When evaluating the risk level of the in-use elevator equipment body and building-related items, the evaluation content and requirements shall be based on the latest current technology: Technical standards and engineering experience, with a view to meeting the basic safety requirements of the elevators in use, through gradual updates, renovations, repairs, as soon as possible Possibly up to the latest level of safety technology: 0:

3 Users can refer to GB/T 24804 to take protective measures to eliminate the Prioritize and reduce risk items, and gradually eliminate or reduce related risks in order of priority: 0:

4 In order to make the risk assessment results of different assessment agencies and assessors on specific risk scenarios as consistent as possible, the appended Appendix A and Appendix B give the risk assessment reference values of the equipment body and building-related evaluation items respectively: Safety assessors are on site to confirm When determining the risk level and risk category of specific evaluation items, you can also refer to the method given in 4:5 of GB/T 20900-2007, and comprehensively consider Factors such as the technical standards adopted in the manufacture and installation of the equipment, the actual safety conditions, and the operating environment shall be considered: Specifications for safety assessment of elevators in use

1 Scope

GB/T 42615-2023 addresses a problem that grows with every year of a building's life: a lift installed to the code of its day, maintained ever since, and now decades old. It still passes its periodic inspection, because inspection asks whether the lift conforms to what it was built to. It does not ask whether the machine as it now stands presents an acceptable level

of risk. This document sets out how to answer that second question. It specifies the requirements a safety assessment body must satisfy - its basic standing, its personnel, its instruments and equipment, and its quality assurance system - and then the assessment procedure itself: the preparatory work and the determination of scope, the risk analysis and risk evaluation with the evaluation items and their requirements, the determination of an overall safety condition grade, and the risk reduction measures that follow from it, ending with the requirements for the assessment report. It applies to traction drive lifts with a rated speed up to 6.0 m/s and hydraulic drive lifts up to 1.0 m/s. Under ICS 91.140.90 and CCS Q78, it is the working document for lift inspection bodies, maintenance companies and the building owners who must decide between modernising a lift and replacing it.

This document specifies the requirements of safety assessment agencies and safety assessment procedures for elevators in use (including preliminary preparations, risk assessments, and comprehensive safety conditions): Level determination, risk reduction measures), basic requirements for assessment reports, etc: This document applies to traction drive elevators with a rated speed not greater than 6:0m/s, and hydraulic drive elevators with a rated speed not greater than 1:0m/s Move the elevator: For traction drive elevators whose rated speed is greater than 6:0m/s, this document can be referred to:

Note: In special cases (such as: disabled persons using elevators, fire situations, potentially explosive atmospheres, extreme weather conditions, earthquake situations or the transportation of dangerous goods In addition to the requirements of this document, relevant additional requirements may need to be considered: This document does not apply to utility lifts and home lifts:

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text: Among them, dated references For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to this document:

GB/T 7024 Terminology for elevators, escalators and moving walks

GB/T 7588:1-2020 Safety Code for Manufacture and Installation of Elevators Part 1: Passenger Elevators and Freight Elevators

GB/T 7588:2-2020 Safety Code for Elevator Manufacturing and Installation Part 2: Design Principles, Calculation and Inspection of Elevator Components

GB/T 10058-2009 Elevator Technical Conditions

GB/T 10059-2009 Elevator test method

GB/T 14048:4-2020 Low-voltage switchgear and controlgear Part 4-1: Electromechanical

contactors and motor starters Contactors and motor starters (including motor protectors)

GB/T 14048:5-2017 Low-voltage switchgear and controlgear Part 5-1: Control circuit electrical appliances and switching element electromechanical type control circuit electrical appliances

GB/T 20900-2007 Risk assessment and reduction methods for elevators, escalators and moving walks

GB/T 21711:1-2008 Basic electromechanical relays Part 1: General principles and safety requirements

GB/T 23821-2009 Safety distance of machinery to prevent the upper and lower limbs from touching the danger zone

GB/T 24474:1-2020 Ride Quality Measurement Part 1: Elevators

GB/T 24478-2009 Elevator traction machine

GB/T 24804 Specifications for Improving the Safety of Elevators in Use

3 Terms and Definitions

The following terms and definitions are defined in GB/T 7024, GB/T 7588:1-2020, GB/T 20900-2007 and GB/T 24804 apply to this document: