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**Requirements for safety management  
system of robot service using service  
robots**

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## Foreword

This Japanese Industrial Standard has been established by the Minister of Economy, Trade and Industry, through deliberations at the Japanese Industrial Standards Committee in accordance with the Industrial Standardization Act.

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**NOTE** This Standard has been established based on the provisions of Article 2, Article 11, Article 13 and Article 19 of the Industrial Standardization Act, which are applied under the provisions of Article 6, paragraph (3) of the Supplementary Provisions to the Unfair Competition Prevention Act etc.

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# Requirements for safety management system of robot service using service robots

## Introduction

### 0.1 Background

When operating service robots that coexists with humans, appropriate management of residual risk is required. In order to pursue this objective, consideration is essential in the aspect of operations performed by robot service providers that use the service robots, in addition to consideration in terms of design performed by the manufacturers, as is the case of general machinery. For the safe operation of the service robot with residual risk performed by the robot service provider, communication between the manufacturer and robot service provider is critical, e.g., the manufacturer provides appropriate information for use; the robot service provider operates the service robot after understanding unclear points among information for use via inquiries to the manufacturer; and the robot service provider provides feedback to the manufacturer regarding safety-related information obtained through actual operation.

For some service robots, safety requirements in terms of design have already been specified in **JIS B 8445**, **JIS B 8446-1** through **JIS B 8446-3** and **JIS B 8456-1**, based on which robot service providers operate the service robots. While these robot service providers safely operate their robot services using knowledge exceeding a certain level and expertise based on experiences, terms has not been organized or systematized for the methodology. This Standard stipulates and systematizes optimum solutions in safe operations of robot services so as to clarify the criteria that robot service providers newly joining the market should fulfil and to promote sound development of the industry.

### 0.2 Objective of this Standard

The objective of this Standard is to provide service providers using service robots with essential requirements for a robot service safety management system, which is a framework for safety operation in implementation of robot services.

This Standard is not intended to increase or change legal requirements for the organization.

### 0.3 Contents of this Standard

The robot service safety management system is based on the concept, “Plan-Do-Check-Act (PDCA)”. A PDCA model shows a repetitive process used by an organization to achieve continual improvements. A PDCA model can be briefly described as follows :

- Plan : establish safety objectives and processes necessary to bring results that are consistent with safety policy of the organization;
- Do : perform the process as planned;
- Check : in light of safety policies including commitments, safety objectives, and