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Train control system using radio communication—Part 2: System requirements

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Foreword

This Japanese Industrial Standard has been revised by the Minister of Land, Infrastructure, Transport and Tourism through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by Japan Railway Electrical Engineering Association (JREEA)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14.

Consequently **JIS E 3801-2**:2010 is replaced with this Standard.

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JIS E 3801 series consists of the following 3 parts under the general title "*Train control system using radio communication*":

Part 1: General requirement and functional requirements

Part 2: System requirements

Part 3: Interface requirements (to be established)

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Train control system using radio communication— Part 2: System requirements

1 Scope

This Japanese Industrial Standard specifies the system requirements for train control systems using radio communication [Japan radio train control system (JRTC)] that communicates control information related to safety on railways between the wayside and train using radio communication. This Standard is also applicable to special railways such as guide rail type railways.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS E 3801-1 *Train control system using radio communication—Part 1: General requirement and functional requirement*

IEC 62280 *Railway applications—Communication, signalling and processing systems—Safety-related communication in transmission systems*

3 Terms and definitions

For the purpose of this Standard, the terms and definitions given in **JIS E 3801-1** apply.

4 System configuration

4.1 Intra-system equipment and interaction between pieces of equipment

The entire JRTC system consists of four pieces of equipment as described in **4.1** of **JIS E 3801-1**. The equipment and related devices, including the external equipment and devices, have the relationships shown in Figure 1. The equipment of the system can be divided into the wayside subsystem and the onboard subsystem. The equipment included in each subsystem is as outlined below.

a) **Wayside subsystem** Equipment installed on the wayside as a part of JRTC, consisting of operation control centre (OCC) equipment, wayside equipment and data communication equipment installed wayside.

b) **Onboard subsystem** Equipment installed on vehicles as a part of JRTC, consisting of onboard equipment and data communication equipment installed onboard.

In Figure 1, a single OCC equipment serves multiple sets of wayside equipment and multiple sets of onboard equipment, and various configurations according to line situations. The system therefore can allow not only processing the OCC function in a centralized manner, but also dividing the function into several layers and processing functions at lower layer by one or more wayside equipment in a distributed manner.

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