

Safety Systems for Electric Facilities in Preparation for Disasters

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Kyushu Electrical Safety Inspection Association
(Japan)**



Seminar – 15 and 16 October 2025



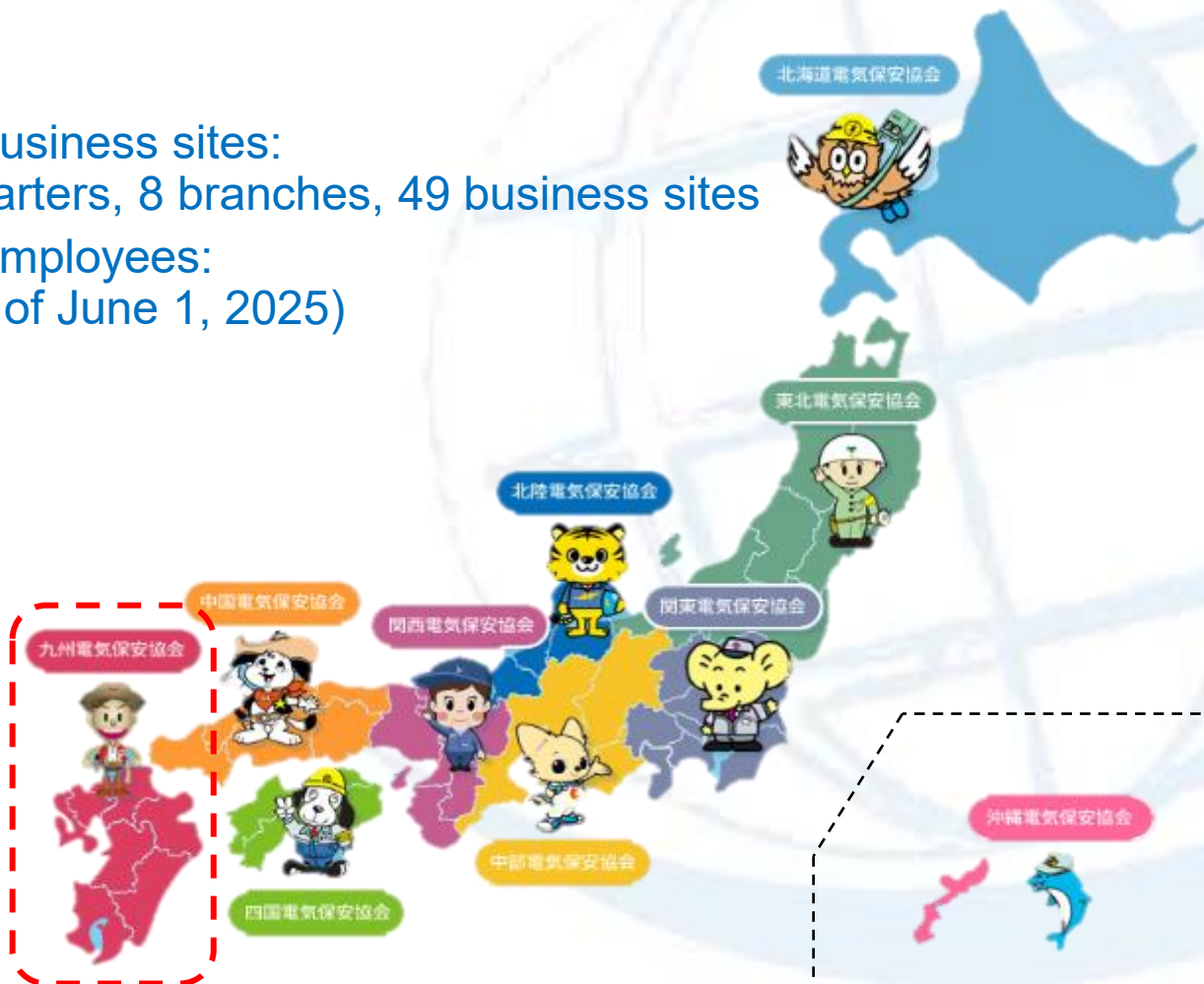
About the Kyushu Electrical Safety Inspection Association

Number of business sites:

1 headquarters, 8 branches, 49 business sites

Number of employees:

1,320 (as of June 1, 2025)



Contents

1. Overview of the Electrical Accident Report System
2. Features of disasters in Japan and their impacts on electric facilities
3. Technologies and training in preparation for disasters
4. Safety education activities
5. Summary



1. Overview of the Electrical Accident Report System

About the Electrical Accident Report System

[Electrical Reporting Regulations] (Excerpt)

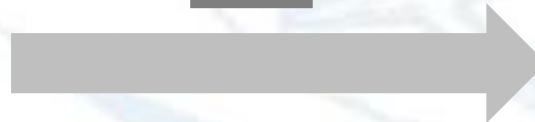
Article 3 (Accident Report)

An electricity utility or a person who has electric facilities for private use must, when an accident has occurred, report the occurrence to the Director of the Regional Industrial Safety and Inspection Department or the Minister of Economy, Trade and Industry.

[Owner of electric facilities for private use]



[Electrical Accident Report]



[Director of the Regional Industrial Safety
and Inspection Department in each
region]
or
[Minister of Economy, Trade and Industry]

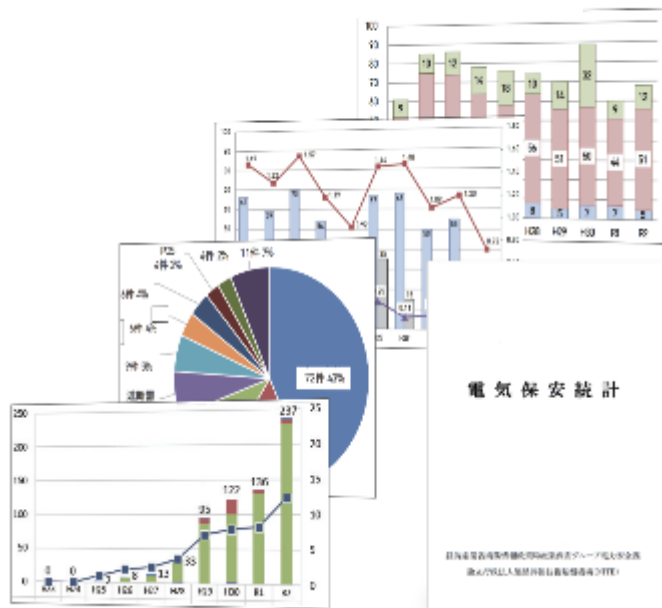


Quick Report: To be submitted within 24 hours
Detailed report: To be submitted within 30 days

About the Electrical Accident Report System

Information collected by Electrical Accident Reports is accumulated in a database, and the information is made publicly available so that it can be utilized for a study of recurrence prevention measures and for internal education.

Electrical Safety Statistics and illustration of analysis



Detailed Report Publication System search screen



The image shows the search screen of the Detailed Report Publication System. The header includes the NITE logo and the text "国立研究開発法人 独立行政法人 技術評価機構". The main section is titled "詳細公表システム" (Detailed Publication System). It contains a search form with various filters and a search button.

検索条件 (Search Conditions):

- 発生年月 (Occurrence Year/Month): [Year] [Month]
- 発生場所 (Occurrence Location): ☐ 北海道 ☐ 東北 ☐ 関東 ☐ 中部 ☐ 北陸 ☐ 近畿 ☐ 中国 ☐ 四国 ☐ 九州 ☐ 沖縄
- 事故種別 (Accident Type): ☐ 電圧以上の感電 ☐ 雷電感電 ☐ 雷電による感電 ☐ 雷電による感電 ☐ 雷電による感電 ☐ 雷電による感電 ☐ 雷電による感電 ☐ 雷電による感電
- 電気工作種別 (Electrical Work Type): ☐ 電気工事 ☐ 電気工事 ☐ 電気工事 ☐ 電気工事 ☐ 電気工事 ☐ 電気工事 ☐ 電気工事

キーワード検索 (Keyword Search):

- キーワード (Keyword): []
- キーワード番号 (Keyword Number): []
- 条件 (Conditions): []

検索 (Search) button and クリア (Clear) button.

Source: National Institute of Technology and Evaluation (NITE)

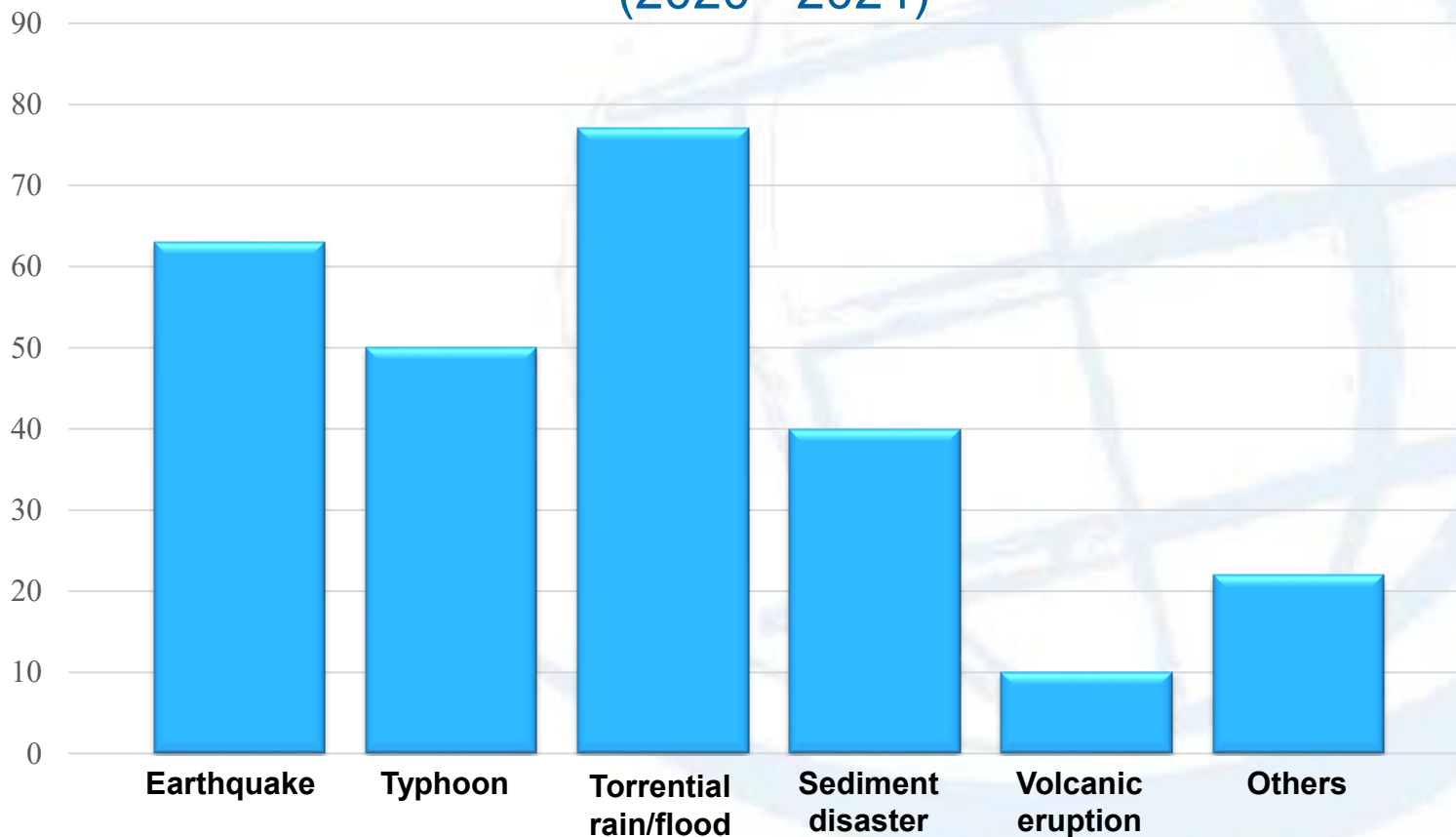


2. Features of disasters in Japan and their impacts on electric facilities

Features of disasters in Japan

Number of occurrences of natural disasters in Japan
(2020 - 2024)

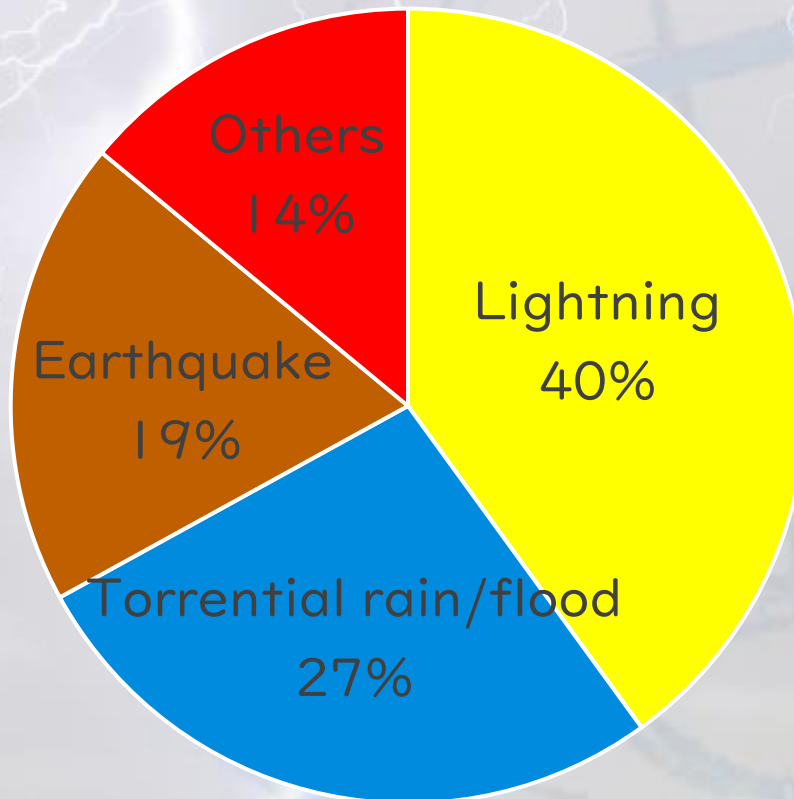
(Cases)



Source: Summarized based on the e-Stat (Government Statistics Portal), Statistics Bureau of the Ministry of Internal Affairs and Communications, Disaster Management Information Page

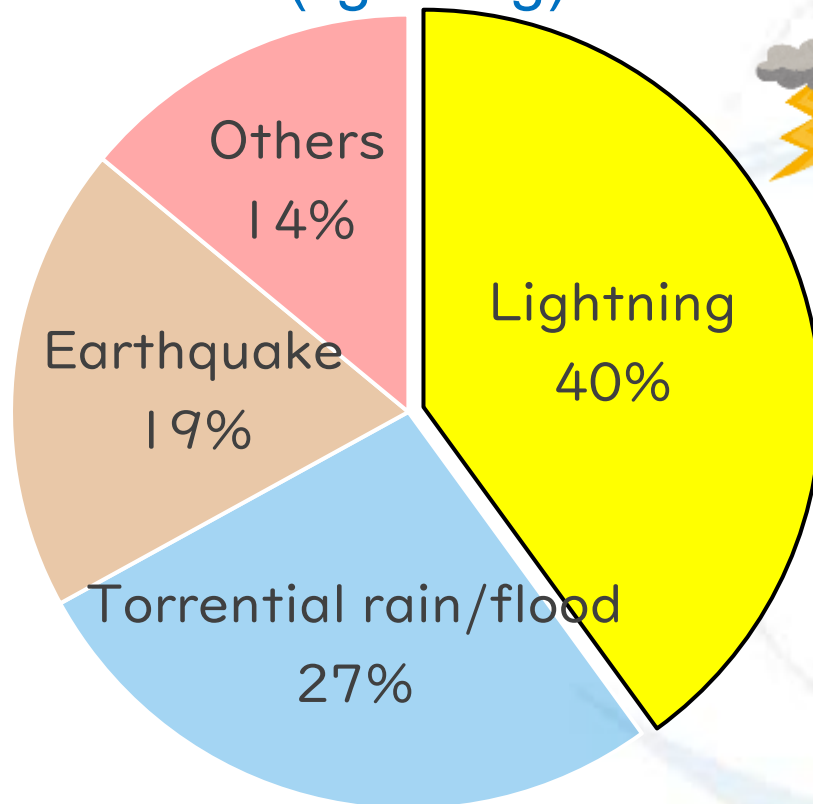
Seminar – 15 and 16 October 2025

Ratio of Electrical Accidents caused by disasters



Source: Ministry of Economy, Trade and Industry "Electrical Safety Statistics (2019 - 2023)"

Electrical Accidents caused by disasters (lightning)



[Switching device burnt by a lightning strike]



[Switching device burnt by a lightning strike]

Source: Ministry of Economy, Trade and Industry "Electrical Safety Statistics (2019 - 2023)"

Electrical Accidents caused by disasters (lightning)



[Distribution panel burnt by the effects of a lightning strike]



[Switching device burnt by a lightning strike]

Protective measures against Electrical Accidents caused by disasters (lightning)

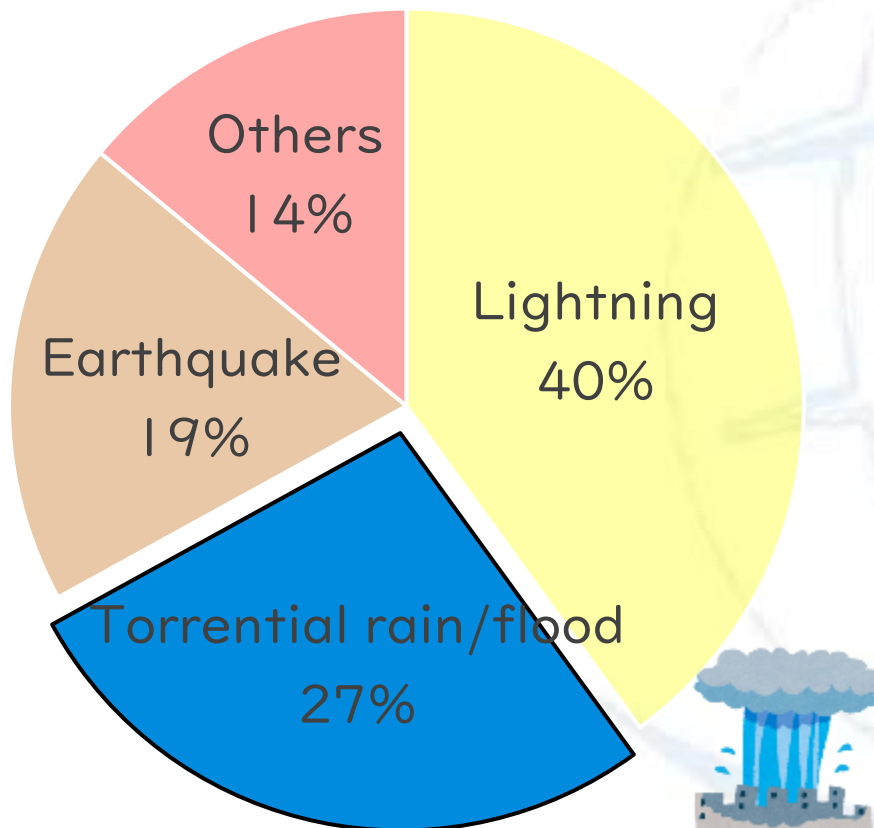


[Installation of a switching device with a built-in lightning arrester]



[Installation of a lightning arrester in the low-voltage circuit]

Electrical Accidents caused by disasters (torrential rain/flood)



Source: Ministry of Economy, Trade and Industry "Electrical Safety Statistics (2019 - 2023)"



[Motors that have been subjected to flood damage]



[Circuit breakers that have been subjected to flood damage]

Electrical Accidents caused by disasters (torrential rain/flood)



[Flooded road]



[Road in normal condition]

Electrical Accidents caused by disasters (torrential rain/flood)



[Cleaning of a flooded electrical facility]



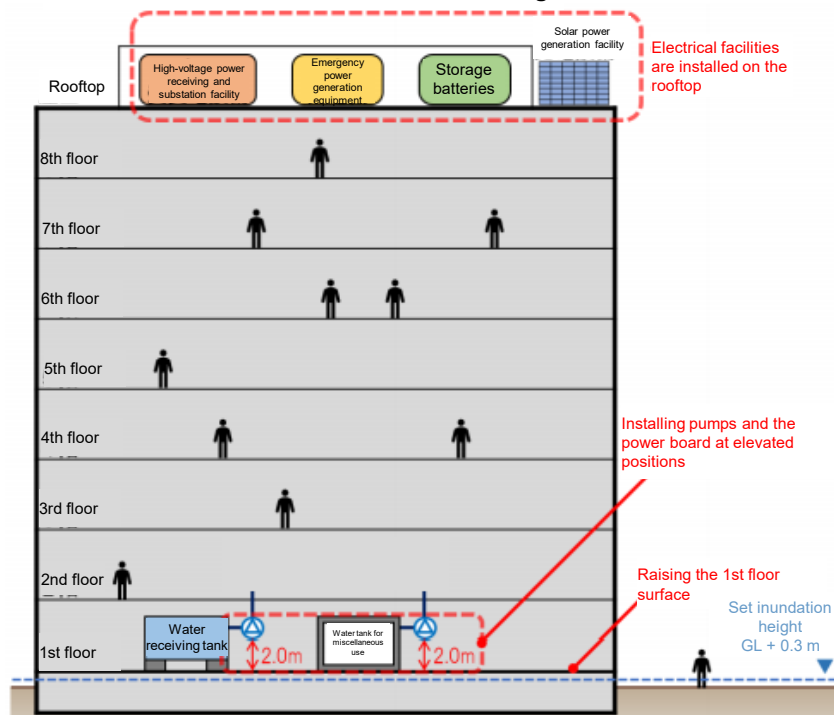
[Flooded solar panels]



[Flooded transformer]

Protective measures against Electrical Accidents caused by disasters (torrential rain/flood)

■ Illustration of the cross section of a building



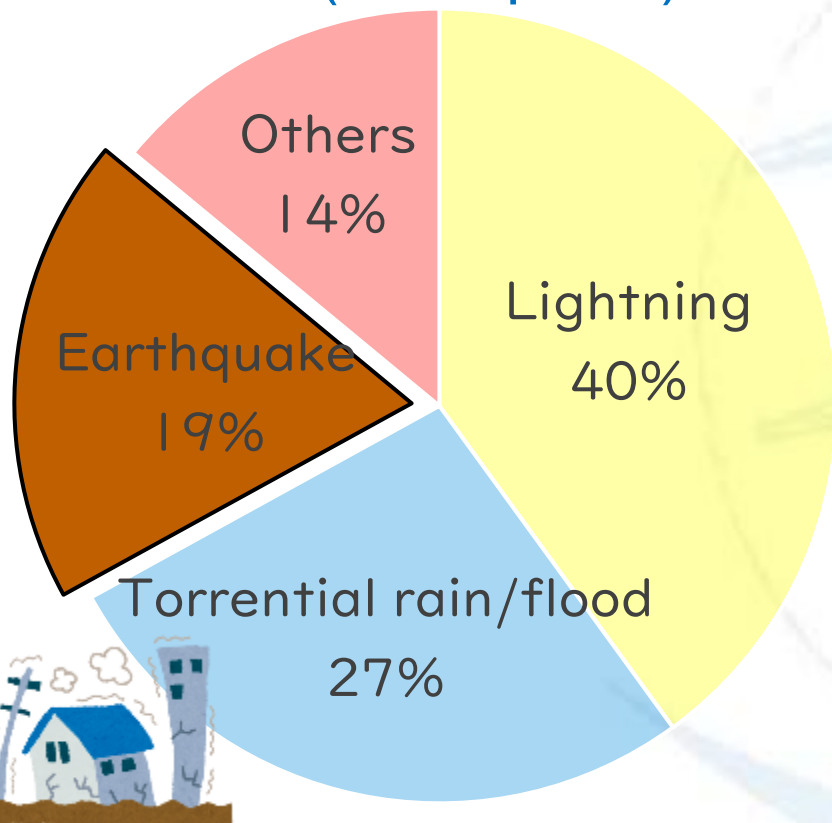
[Raising the level of the installation location of each electrical facility]



[Securing the doors with a rope (protective measures against a violent storm)]

Source: Website of the Ministry of Economy, Trade and Industry: "Guidelines for Protective Measures against Inundation of Electrical Facilities in Buildings (final draft)"

Electrical Accidents caused by disasters (earthquake)



[Instrument transformer removed from its fixation position due to an earthquake]



[Air conditioner tilted by an earthquake]

Source: Ministry of Economy, Trade and Industry "Electrical Safety Statistics (2019 - 2023)"

Electrical Accidents caused by disasters (earthquake)



[Ceiling that was dropped by an earthquake]



[Ceiling that was dropped by an earthquake]

Electrical Accidents caused by disasters (earthquake)

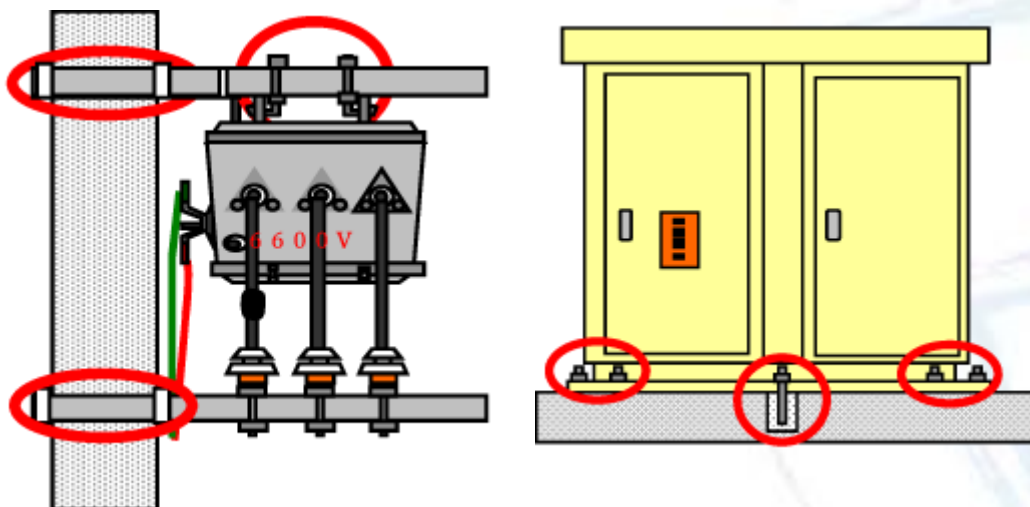


[Cubicle fallen down by an earthquake]



[Transformer tilted by an earthquake]

Protective measures against Electrical Accidents caused by disasters (earthquake)



[To be fixed securely to cross arms or a foundation]

Source: Shikoku Electrical Safety Inspection Association



[Adoption of seismic mitigation devices]

Source: DAIHEN Corporation, Top Runner Oil-immersed Transformer
https://www.daihen.co.jp/products/electric/trans/toprunner01_05.html#anc01

3. Technologies and training in preparation for disasters

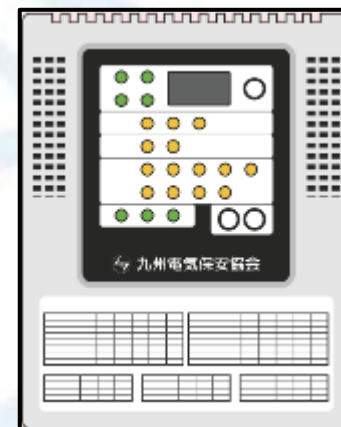
Communication system when an Electrical Accident has occurred



[Receiving an Electrical Accident report by the Customer Support Center]

- Alarm monitoring (insulation continuous monitoring device, etc.)
- Receiving a request for dispatch from a customer, etc.

Reporting



[Insulation continuous monitoring device]



Data
transmission



[Tablet for inspection]

Training for emergency disaster preparedness



[Confirmation of report content from
each branch/collection of information]



[Reporting to the head of emergency
response headquarters]



4. Safety education activities

[illegible]

[Public relations magazine
"Electricity and Safety"]

Safety education activities (Electricity Safety Use Month Street campaign)





5. Summary

The electricity safety systems in Japan have undergone severe environments including flood damage and earthquakes, through which technologies and knowledge have been brushed up for many years.

Such history has been an accumulation of on-site contrivances and steady efforts, which has led to our strengths at present.

We will continue to assure electrical safety in future as well, through the technologies, qualities, and services that have been acquired until the present.



Closing Seminar

MERCI - THANKS

