

Accident cases and preventive measures in high voltage demand equipment

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3. Increasing inspection efficiency

[Official mascots of Kyushu Electrical Safety Inspection Association]



[Little Safety Inspection]



[Little Observation]

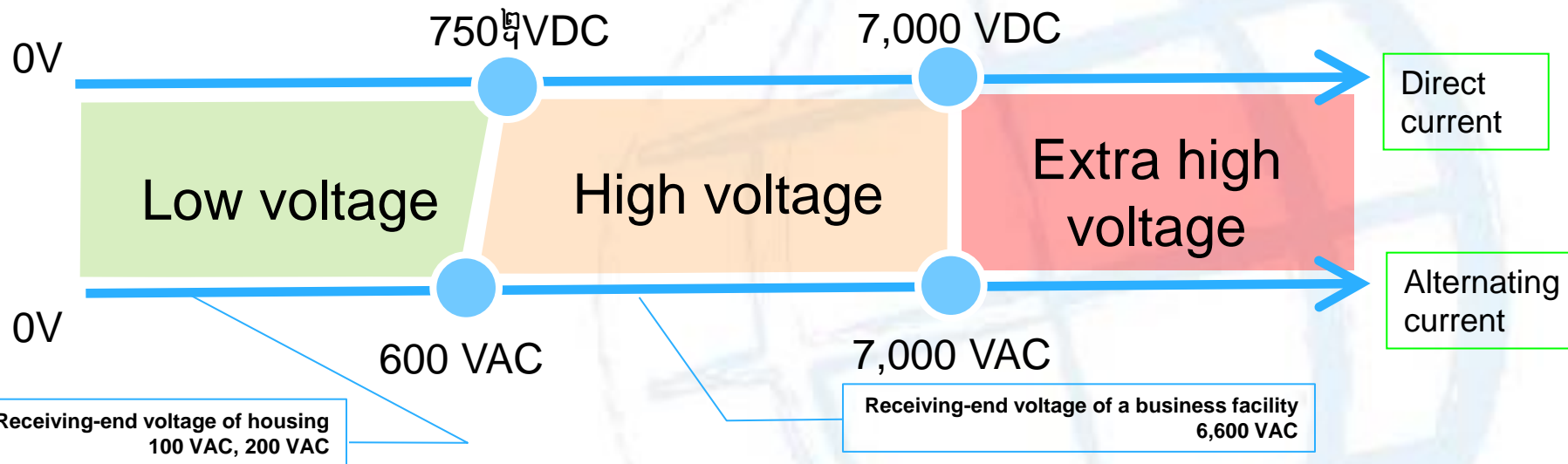


[Electrical Leakage]



1. Form of equipment of the high voltage demand equipment in Japan

Classification based on receiving-end voltage in Japan

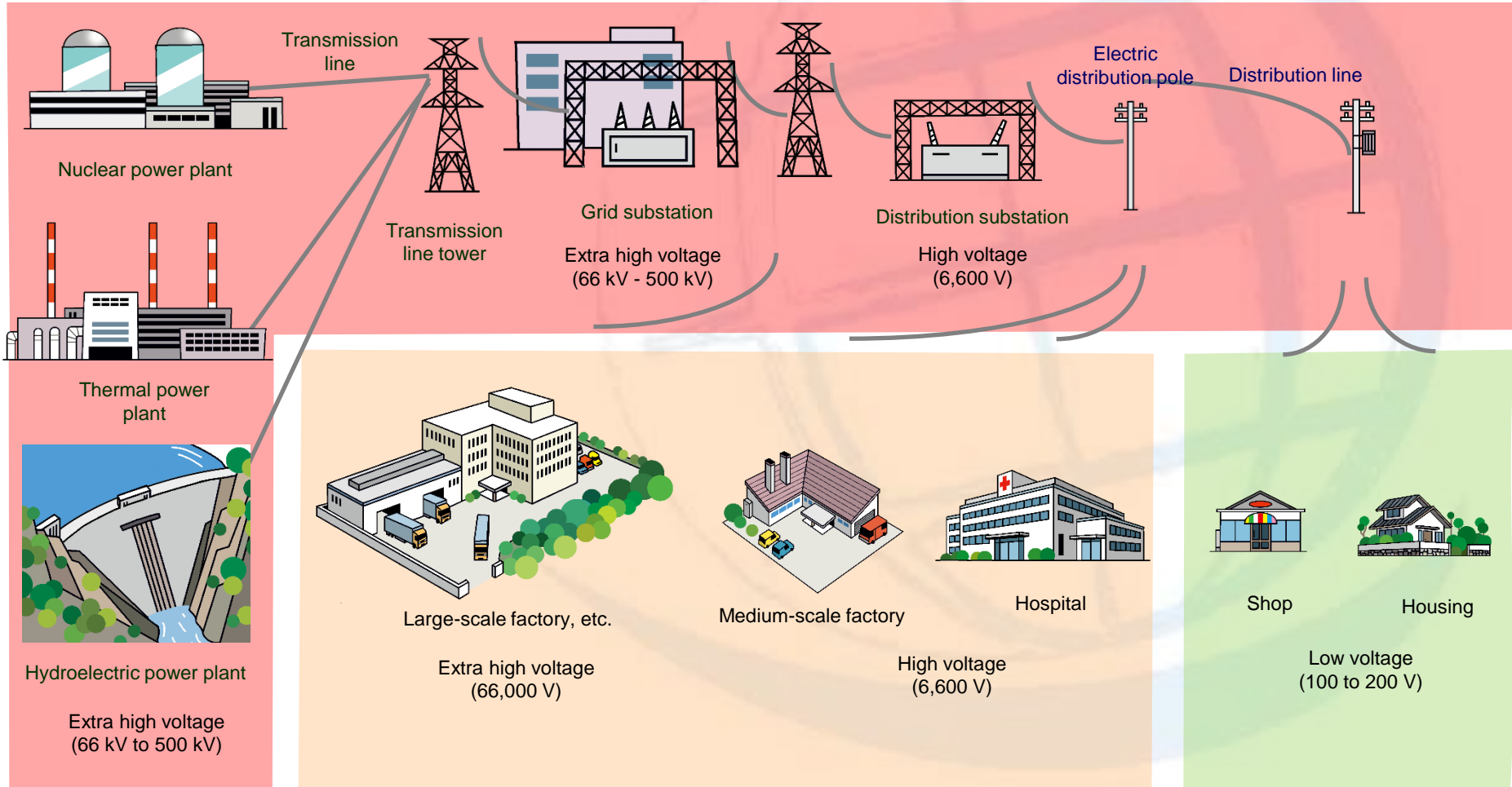


Classification based on receiving-end voltage in Japan

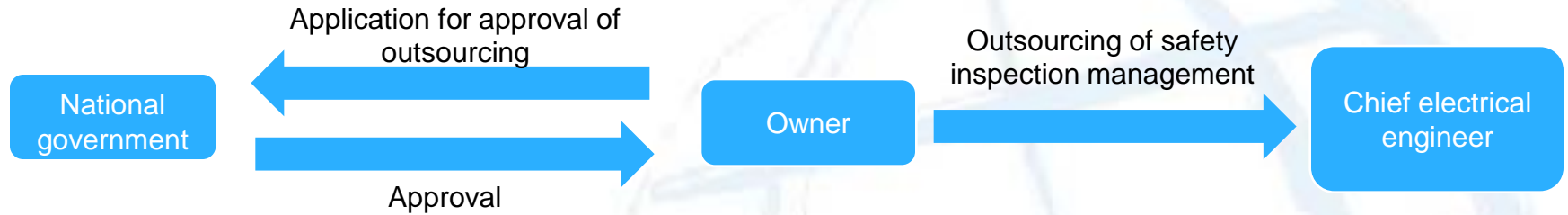
Electric Facilities for Business Use

Electric Facilities for Private Use

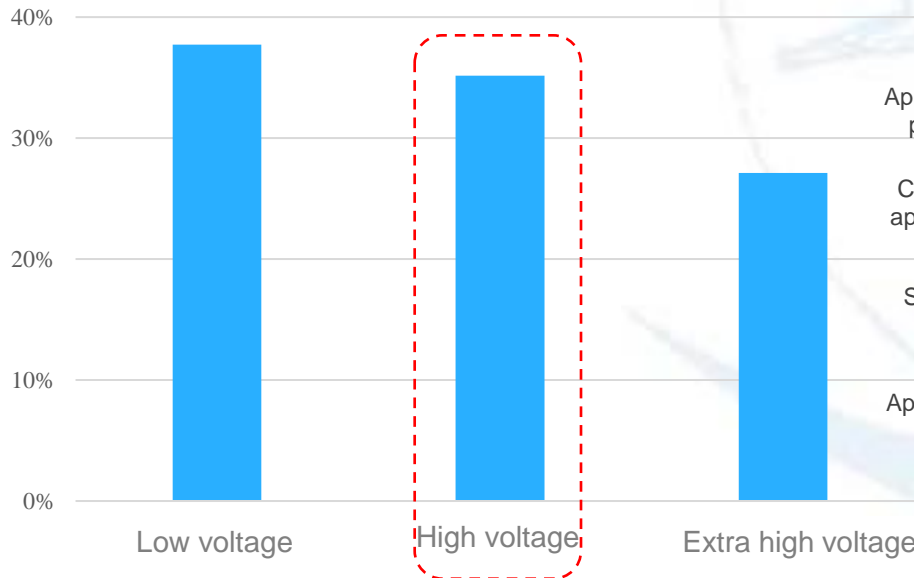
Electric Facilities for General Use



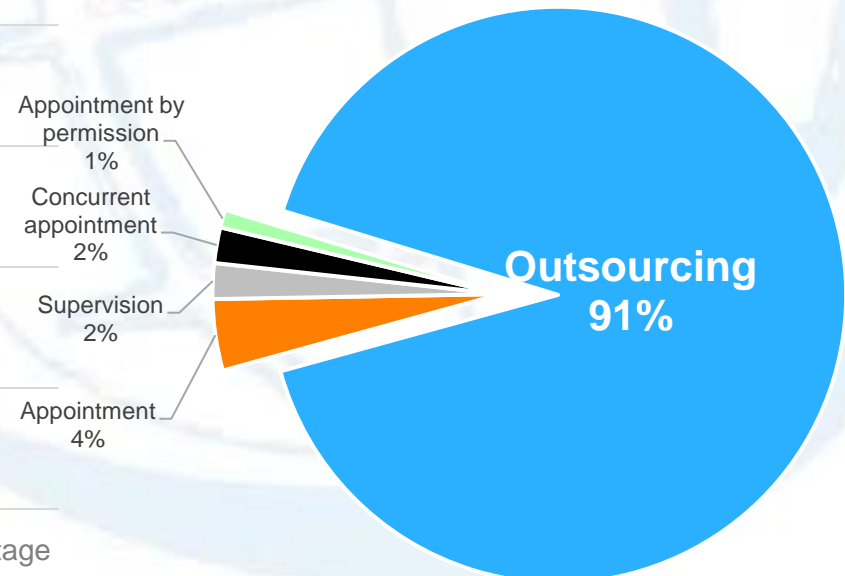
Outsourcing system of high voltage demand equipment inspection



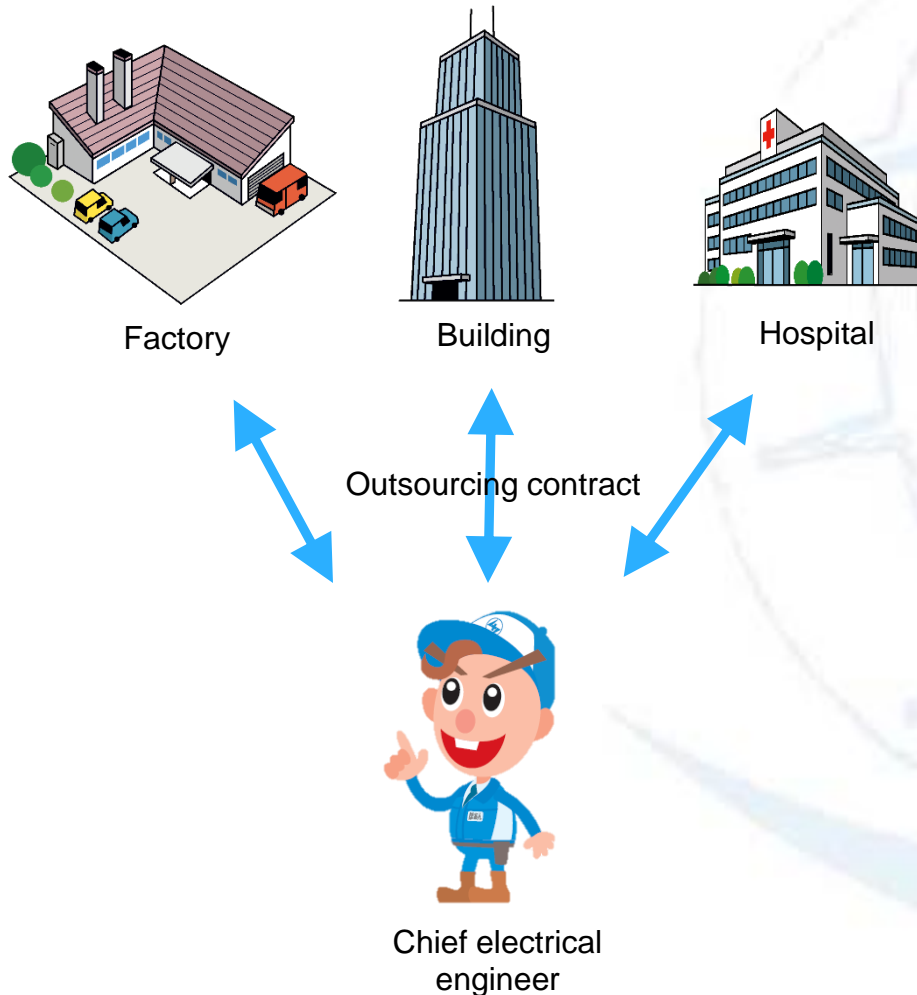
Electrical energy demand according to voltage category



Details of appointment mode



Outsourcing system of high voltage demand equipment inspection



(1) With 3 years or more of practical experience (attendance on lecture meetings)

(2) The chief electrical engineer performs inspection by him- or herself, and as for the number of pieces of equipment of which each engineer can be in charge, the total score of the values calculated based on the types and sizes of electrical equipment is less than 33 .

(3) Equipment interconnected at high voltage (7 kV or less)

(4) The output of the power generation equipment for which outsourcing can be done is as listed in the table below.

Solar power plant, energy storage plant	Less than 5 MW
Thermal power, hydroelectric power, and wind power plants	Less than 2 MW

Mode of demand equipment in Japan



[Demand equipment installed on an electric pole]



[Demand equipment in a common tenant building (8 story)]



[Demand equipment in one of the most popular convenience stores in Japan]

Mode of demand equipment in Japan



[Demand equipment of the open frame type]



[Demand equipment of the cubicle type (front)]

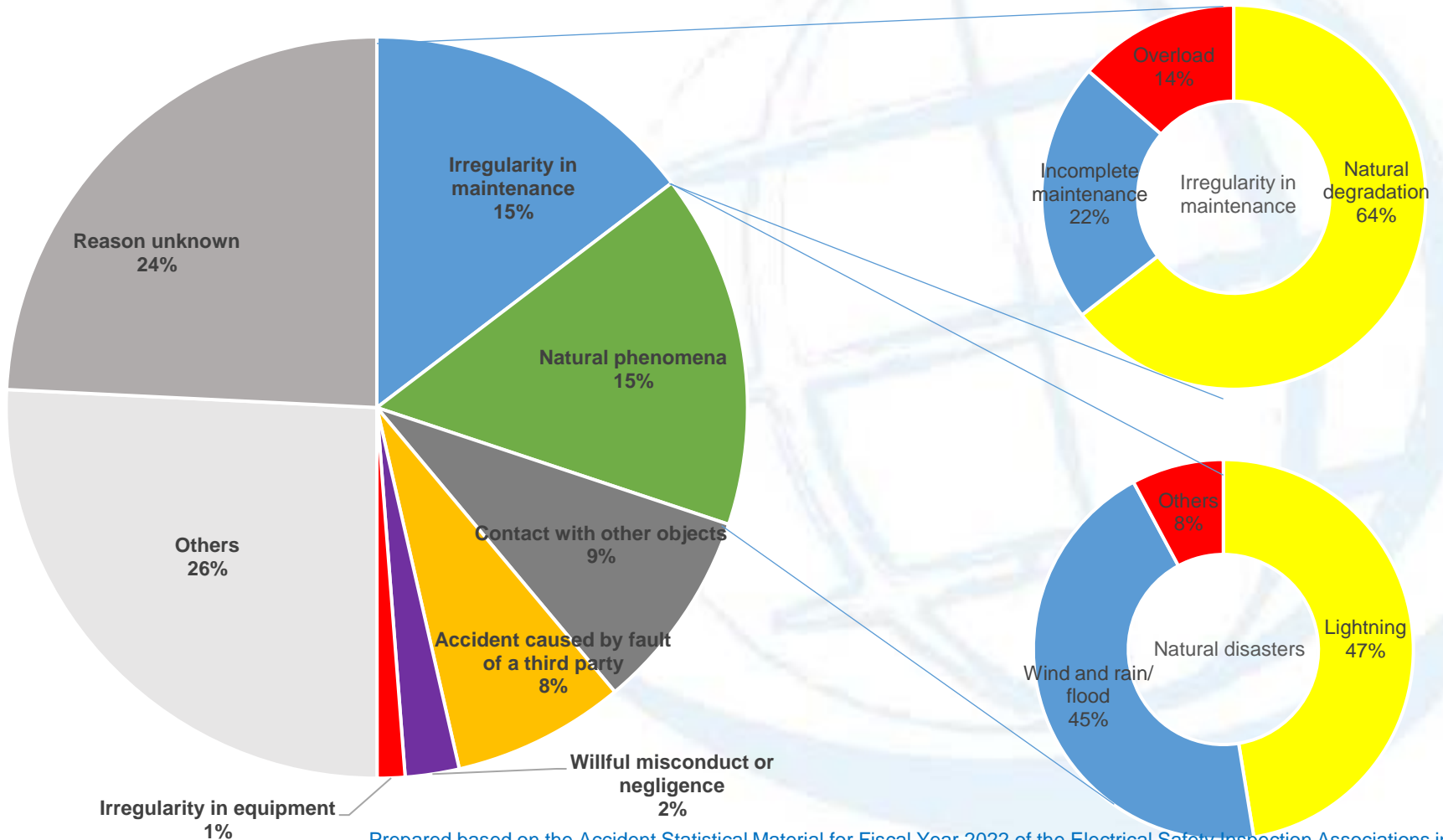


[Demand equipment of the cubicle type (back)]



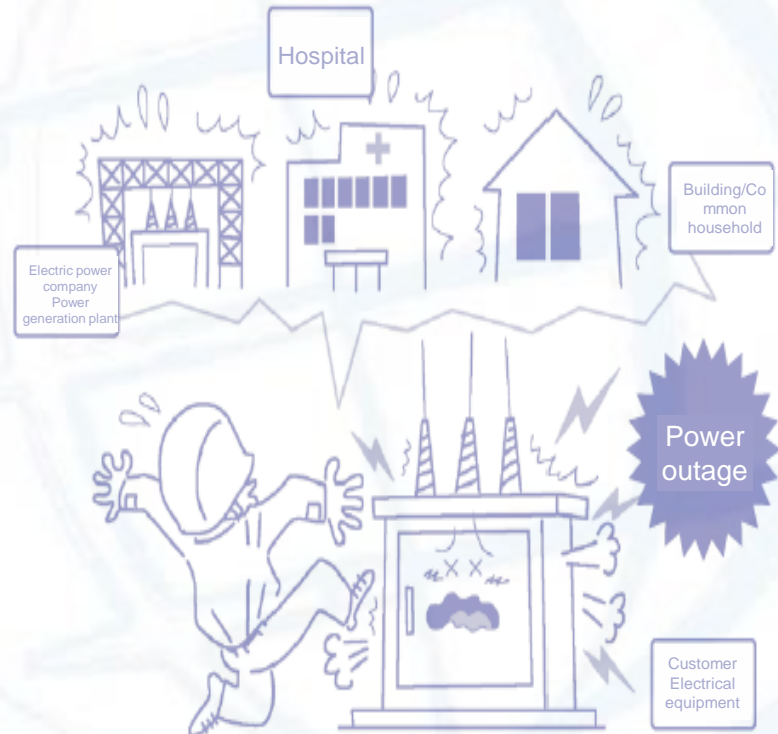
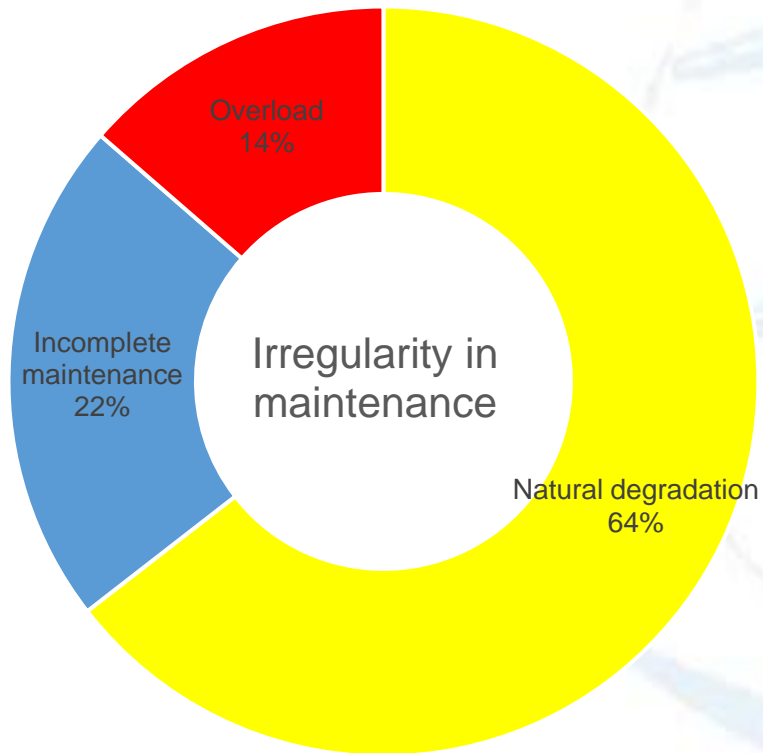
2. Major accident cases and preventive measures in electrical equipment

Ratios of electrical accident occurrence

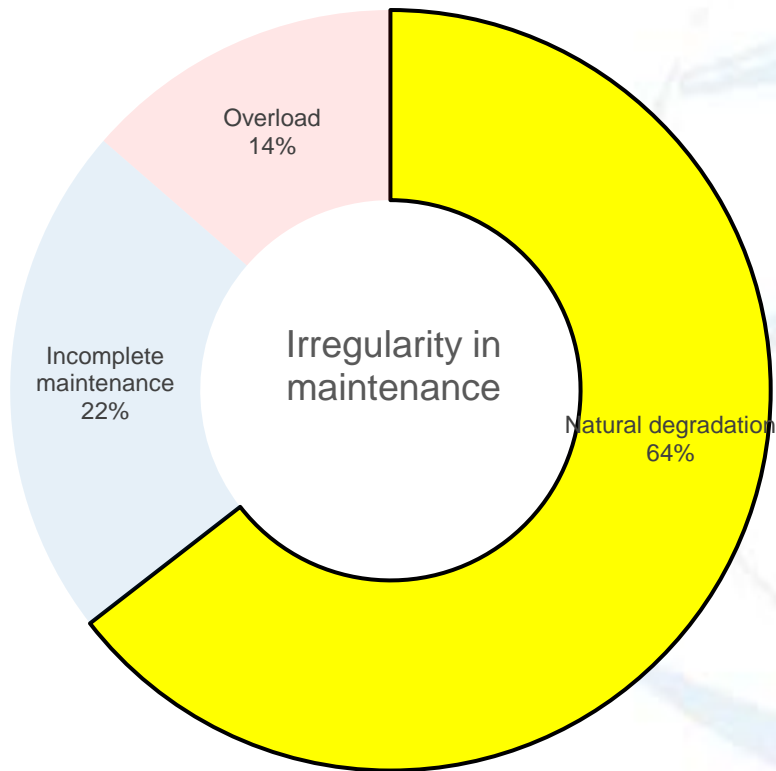


Prepared based on the Accident Statistical Material for Fiscal Year 2022 of the Electrical Safety Inspection Associations in Japan

Cases of accidents caused by irregularity in maintenance



Cases of accidents caused by irregularity in maintenance

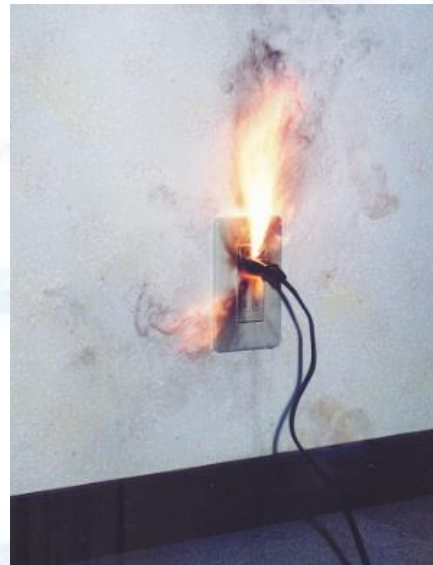
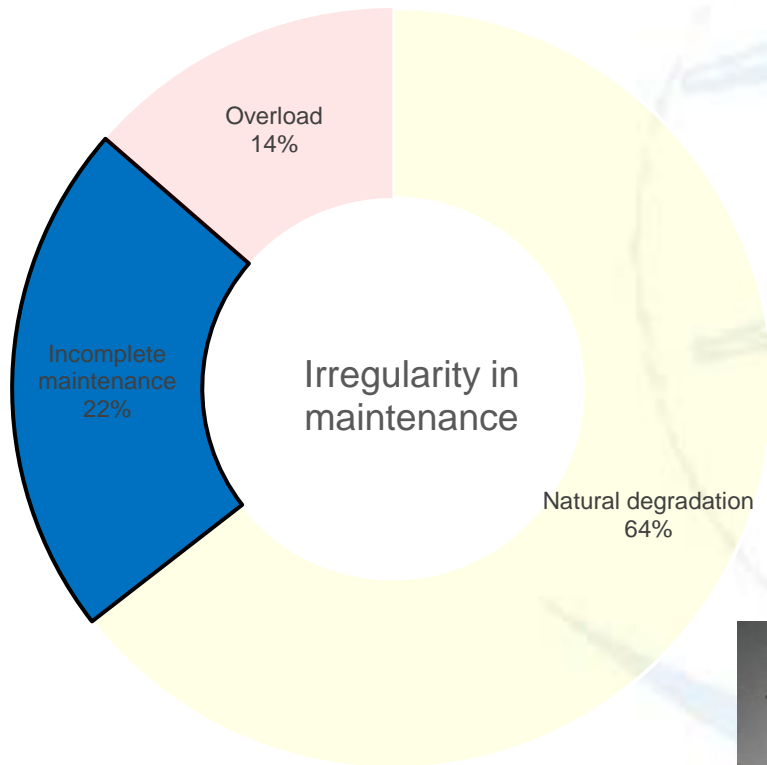


Fuse burnout due to degradation over time



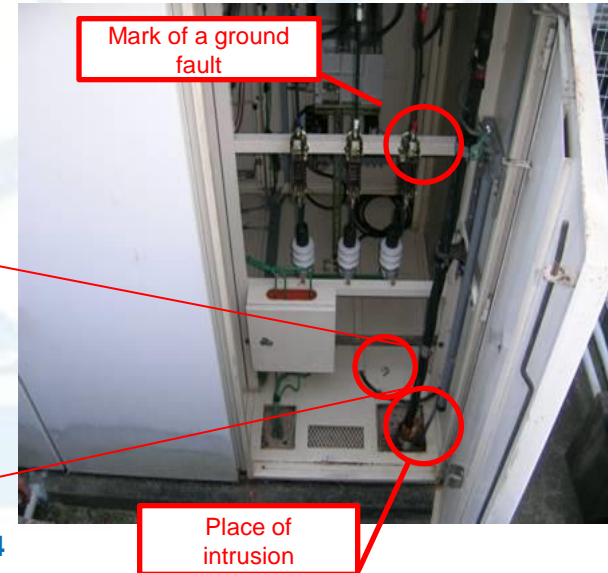
high voltage CV cable electrical breakdown (burnout)

Cases of accidents caused by irregularity in maintenance

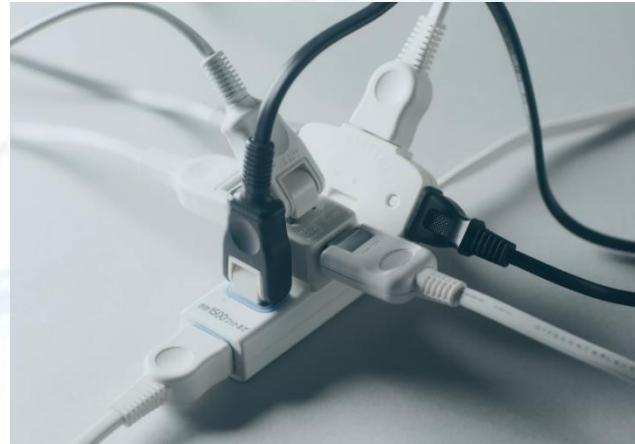
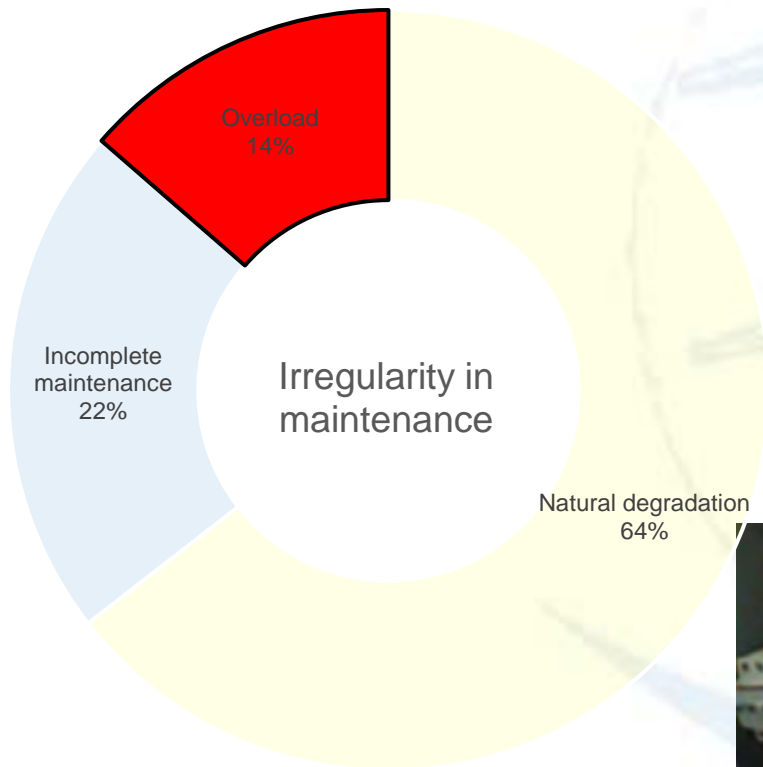


[Fire caused by a tracking phenomenon]
Source: Tokyo Fire Department

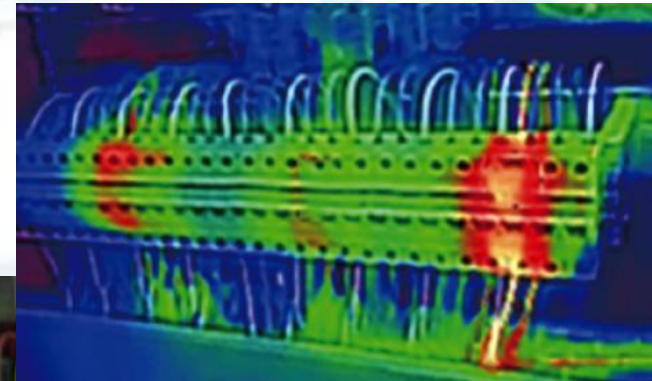
[Power outage accident caused by intrusion of a small animal]



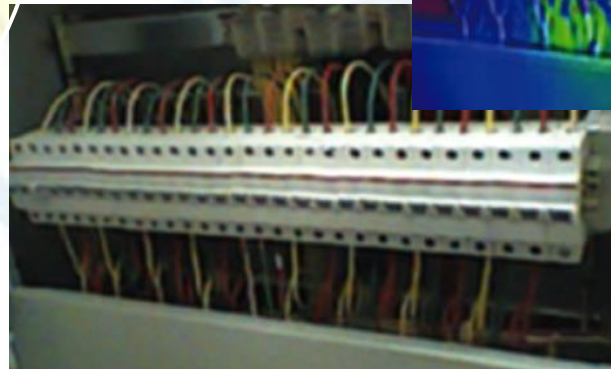
Cases of accidents caused by irregularity in maintenance



[Octopus wiring exceeding the rated capacity]



[Heated circuit breaker caused by overload]



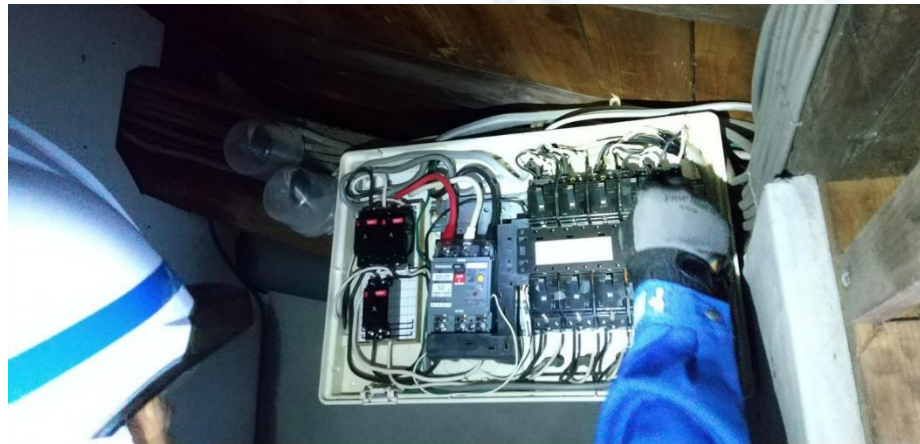
Preventive measures against accidents caused by irregularity in maintenance



[Replacement of a defective outlet]



[Retightening of circuit breaker connections]



[Inspection of a distribution board]

Preventive measures against accidents caused by irregularity in maintenance



[Precision inspection by disconnecting demand equipment]



[Measurement of insulation resistance of electrical circuits]

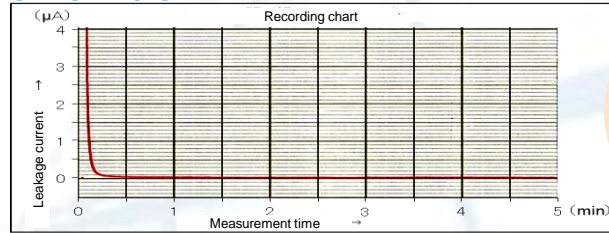


fisuel seminar – 15 and 16 October 2024 [Inspection and cleaning of electrical equipment]

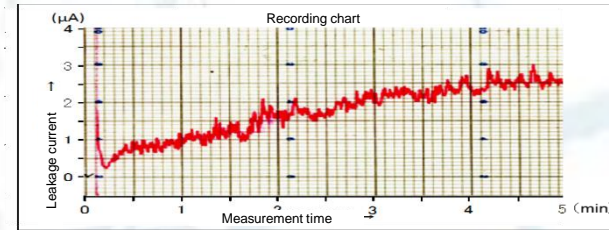
Preventive measures against accidents caused by irregularity in maintenance



[Precision inspection of a high voltage CV cable]



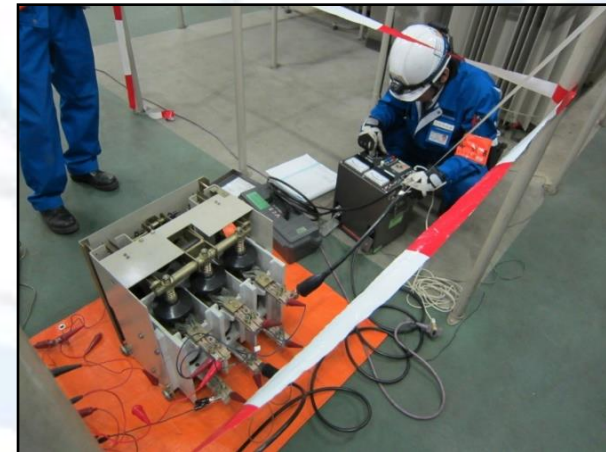
Good result



Poor result

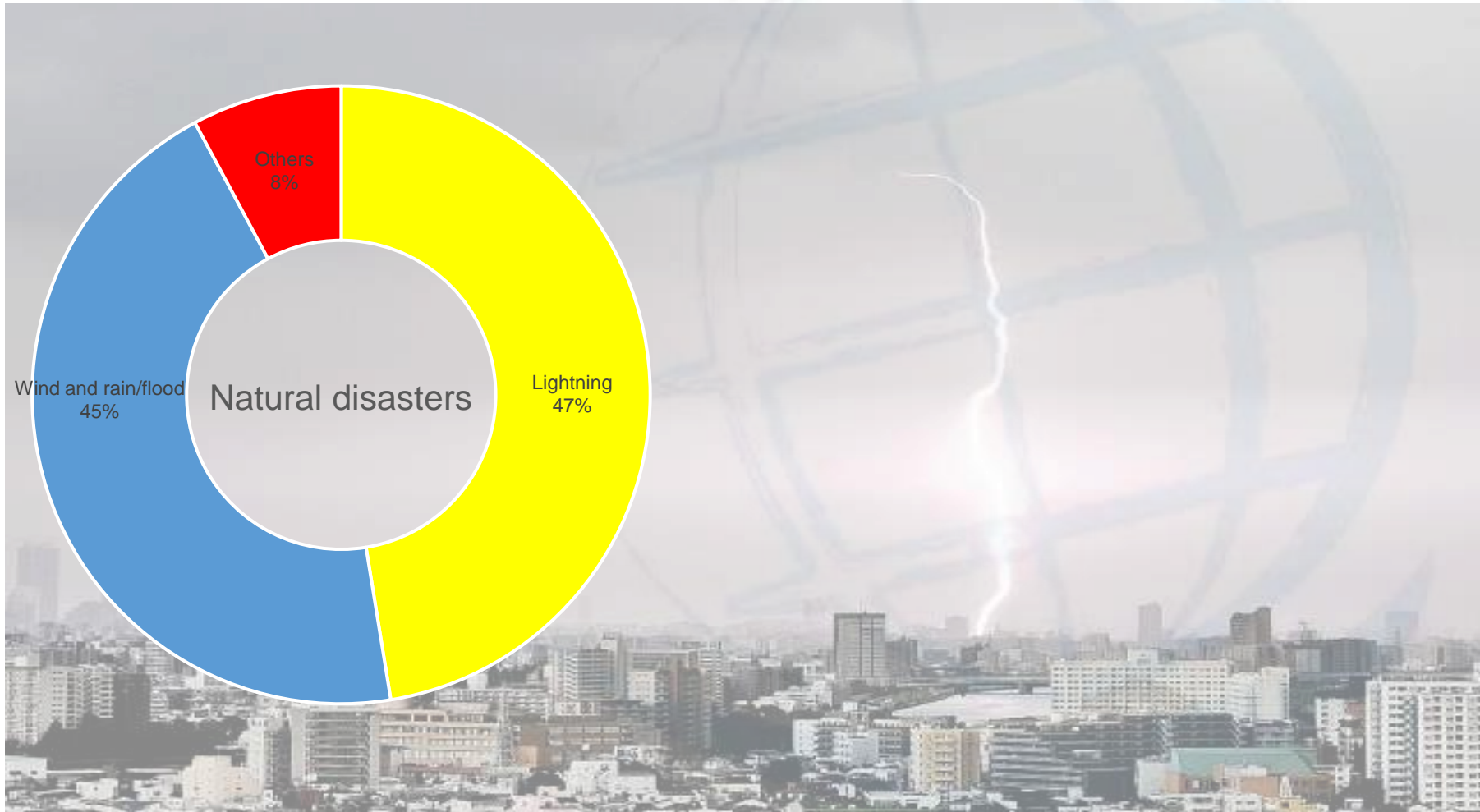


[Maintenance of a circuit breaker] **fisuel seminar – 15 and 16 October 2024**



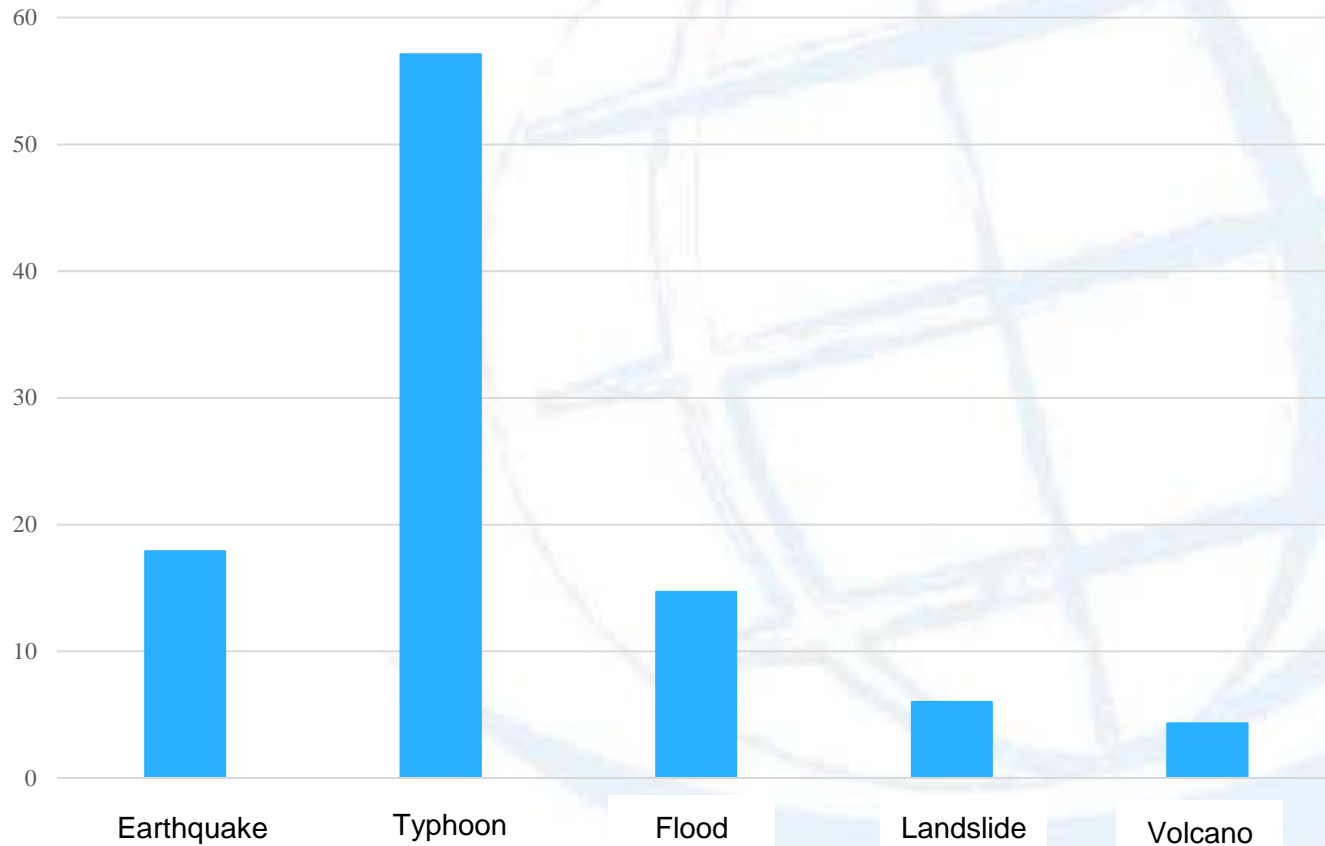
[Maintenance of a circuit breaker]

Electrical accidents caused by disasters



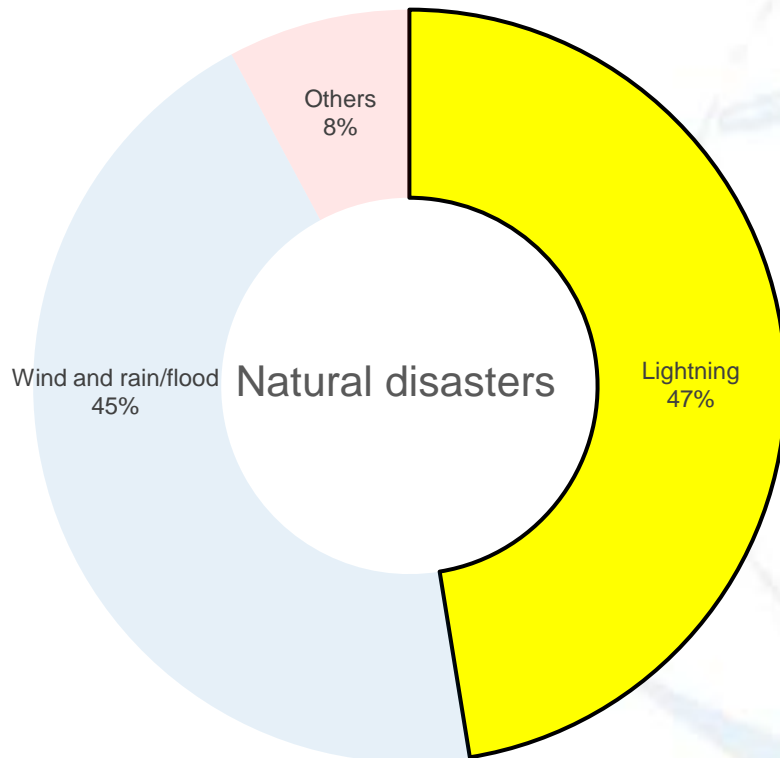
Electrical accidents caused by disasters

Ratios of the number of occurrences of natural disasters in Japan

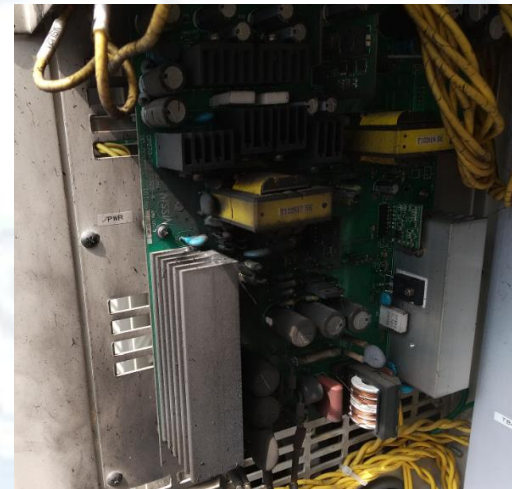


Material: Prepared from the Disaster Database of the Centre for Research on the Epidemiology of Disasters (EM-DAT) of the Université catholique de Louvain (EM-DAT); as of 2018
Statistics of 1985–2018

Electrical accidents caused by disasters



[Switchgear damaged by a lightning stroke]



[Control circuit damaged by a lightning stroke]

Preventive measures against electrical accidents caused by disasters

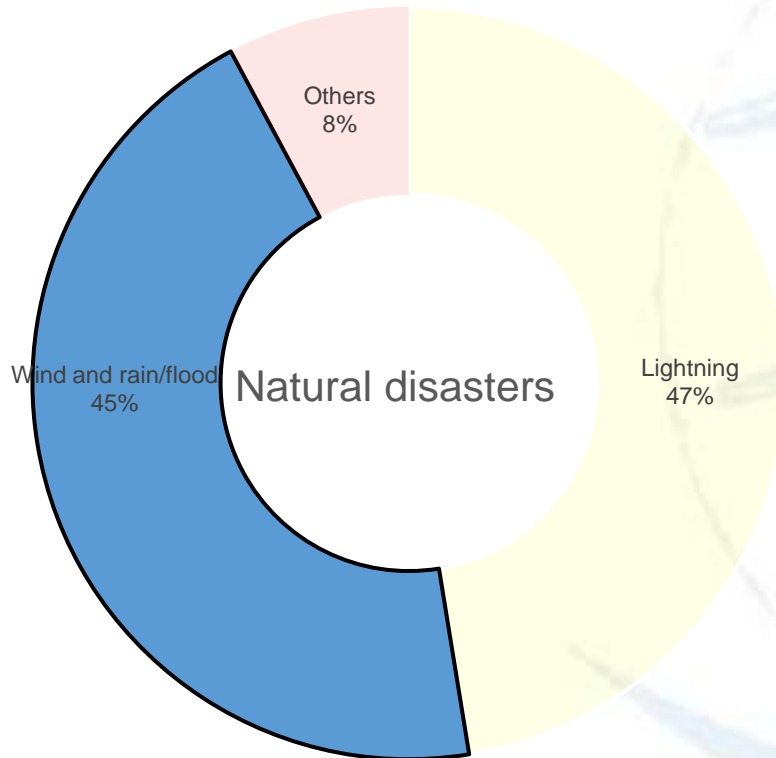


[Installation of a lightning arrester in a high voltage circuit]

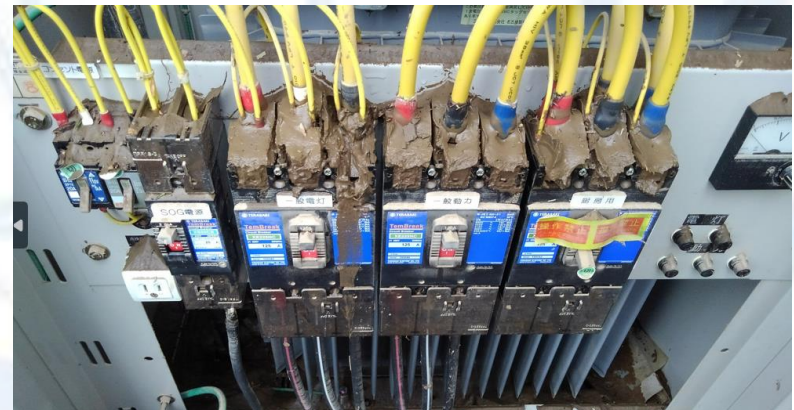


[Installation of a lightning arrester in a low voltage circuit]

Electrical accidents caused by disasters

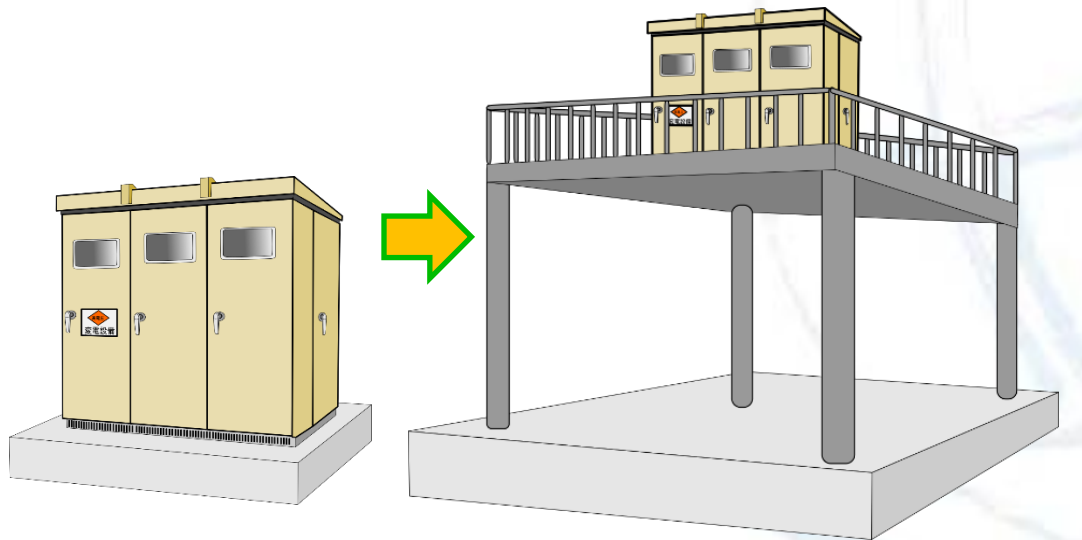


[Motors damaged by a flood]

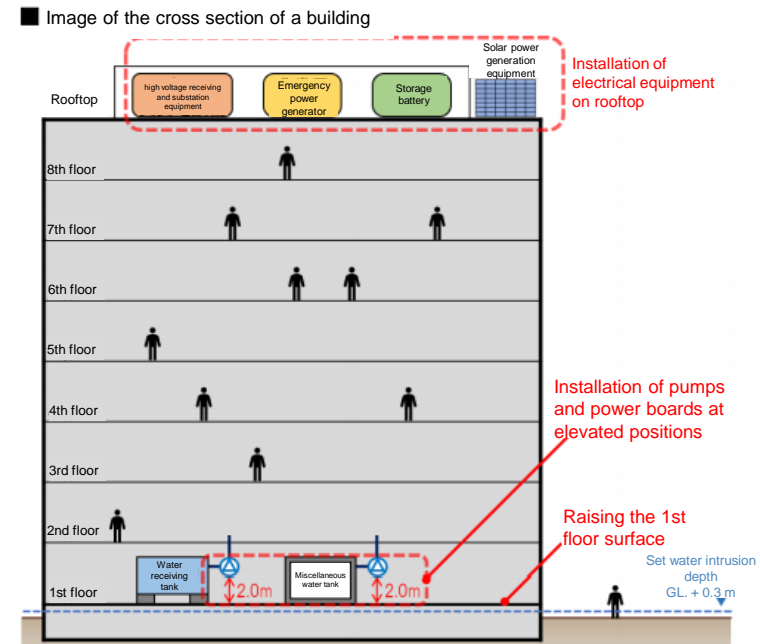


[Circuit breaker damaged by a flood]

Preventive measures against electrical accidents caused by disasters

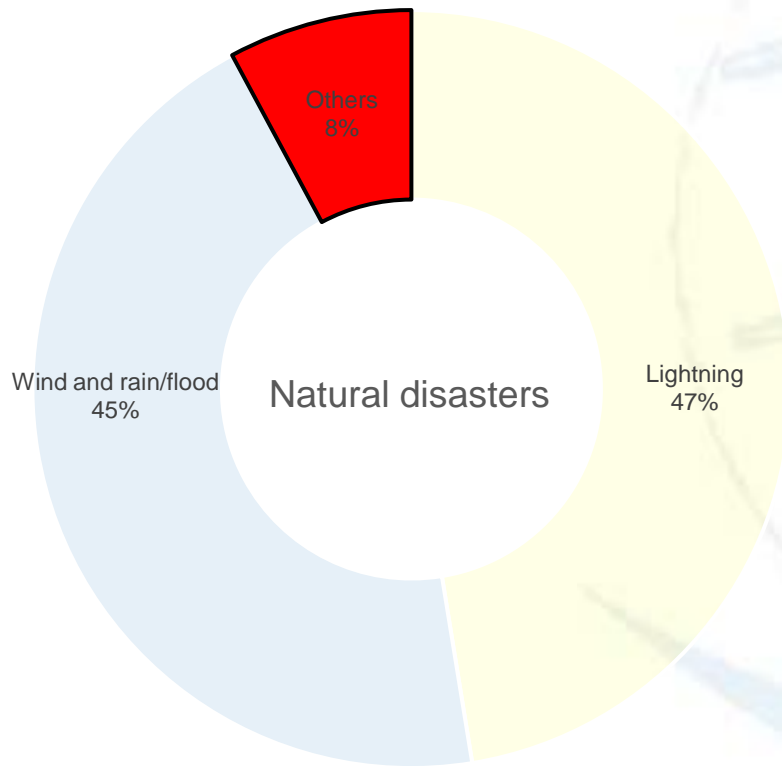


[Elevation of electrical equipment]

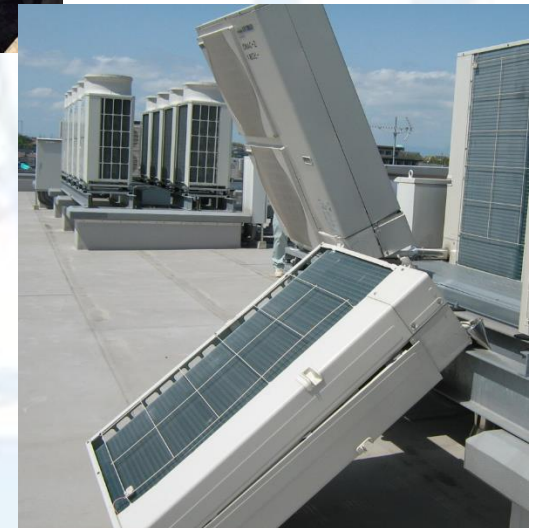


Source: METI website on the "Guidelines on the Preventive Measures against Water Intrusion in Electrical Equipment in Buildings (Final Draft)"

Electrical accidents caused by disasters

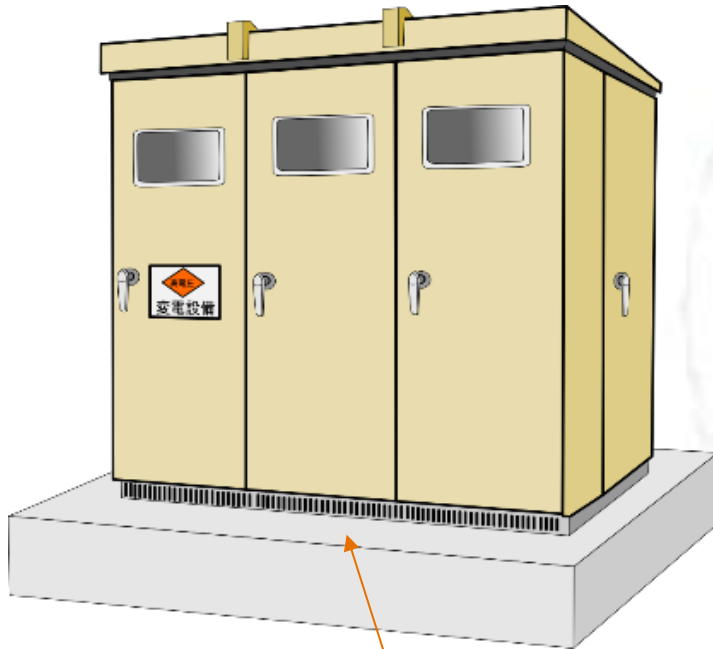


[Substation equipment damaged by an earthquake]

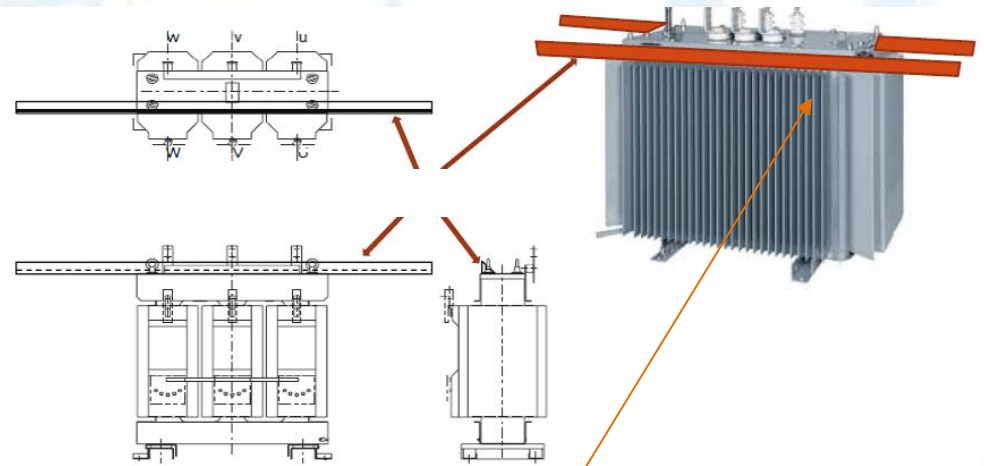


[Air conditioner outdoor unit damaged by an earthquake]

Preventive measures against electrical accidents caused by disasters



Secure the equipment firmly to the foundation



Take vibration prevention measures

Comprehensive measures against electrical accidents

2023年 **重点ご説明事項** [8月度]

お客様の感電事故防止について



お客様の電気設備において、お客様ご自身で高圧開閉器を操作されますと、**重大な事故**(感電死傷・波及事故など)につながる恐れがあり大変危険ですので、絶対に操作しないようお願いいたします。
電気設備を休止させる場合等で、高圧開閉器を操作する必要がありますら、必ず当協会までご連絡をお願いします。

感電死傷事故が発生した時は、24時間以内に九州産業保安監督部へ報告が必要となる場合があります。速やかに当協会へご連絡ください。また、報告の概要については下記を参照ください。

九州産業保安監督部 ホームページ <https://www.safety-kyushu.meti.go.jp>

作業者の感電事故について

1. もしも感電事故が発生したら

事故の発生を知った時から24時間以内に、九州産業保安監督部へ報告が必要となります。速やかに当協会へご連絡ください。

もしも感電事故が発生したら

2. 埋設ケーブル付近の掘削作業にご注意ください。

埋設したケーブル付近の掘削作業を行う場合は、事前に埋設箇所の表示を十分確認して、ケーブルに傷をつけないように注意してください。(事前に当協会へご連絡ください)



3. 高圧電線付近の作業にご注意ください。

高圧電線付近で作業を行う場合は、高圧電線への防護カバー取り付けや電源を切る等の安全対策を実施して作業する必要があります。

電気工事業者等が施工する場合でも、作業の安全確保のために作業日程や内容について事前に確認しておく必要があります。(事前に当協会へご連絡ください)

ご不明な点は、当協会担当者へお尋ねください。

九州電気保安協会では、お客様サポートセンターを設けており、24時間、365日、特に休日・夜間帯においても、お客様の対応ができる体制をとっていますので、いつでもご連絡ください。

九州電気保安協会
ホームページ <https://www.kyushu-qdh.jp>

[Pamphlet for raising electrical safety awareness]

[Seminar for electrical engineers]

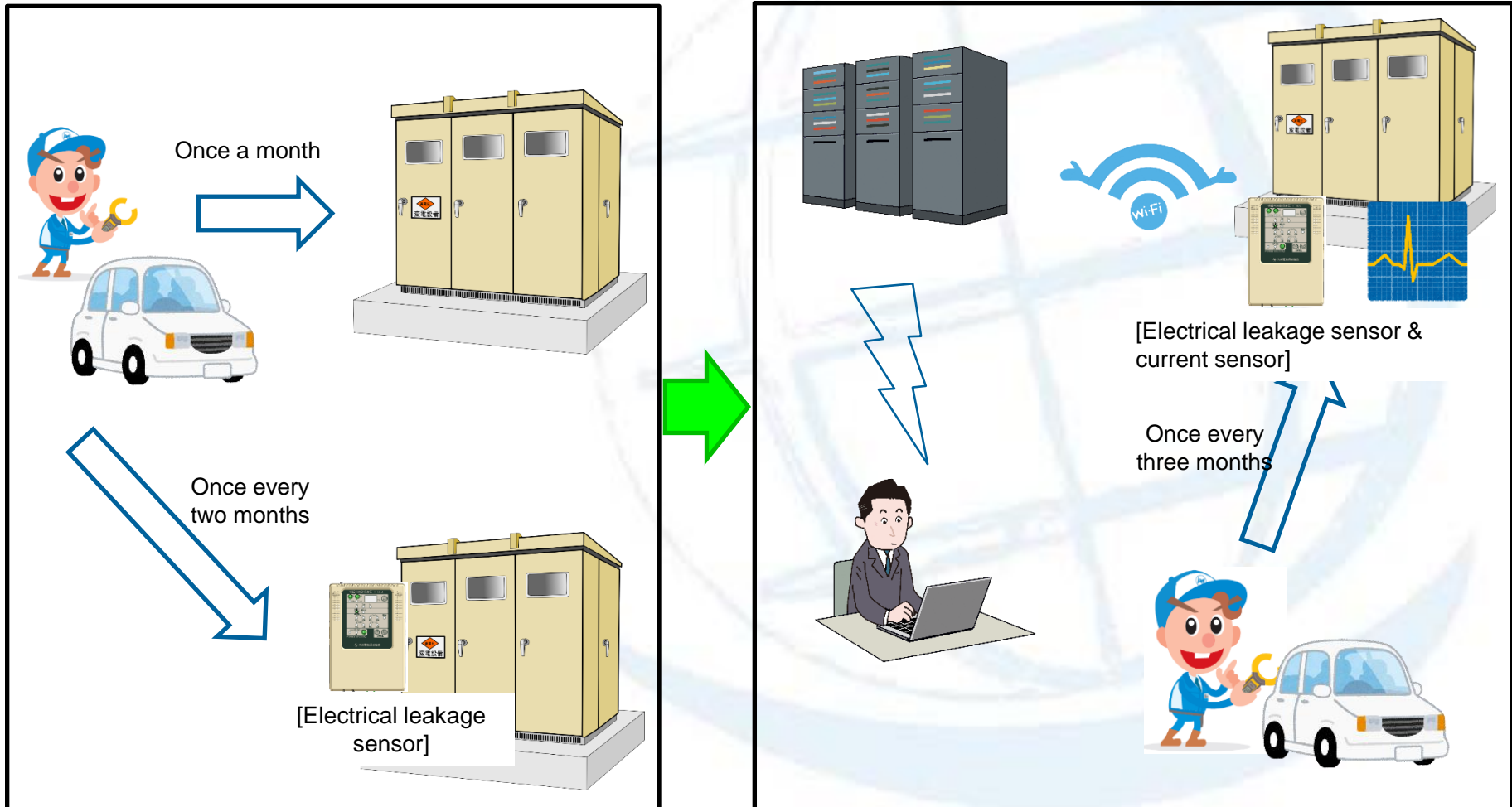


[Seminar for users of electricity]

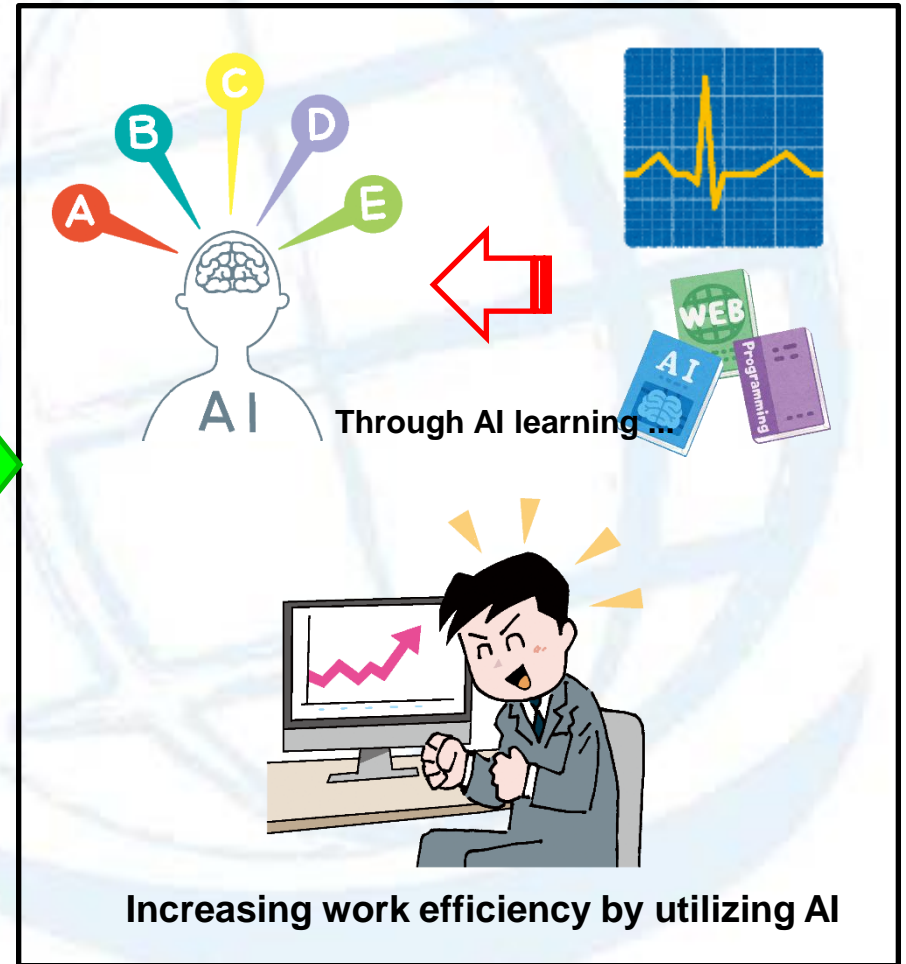


3. Increasing inspection efficiency

Smart Safety Inspection



Increasing work efficiency







MERCI - THANKS