

One of the Effective Ways for Environmental Impact Mitigation in Cable Replacement

SC B1 Insulated Cables – PS3 – Q3
Naoya KATAOKA, Japan

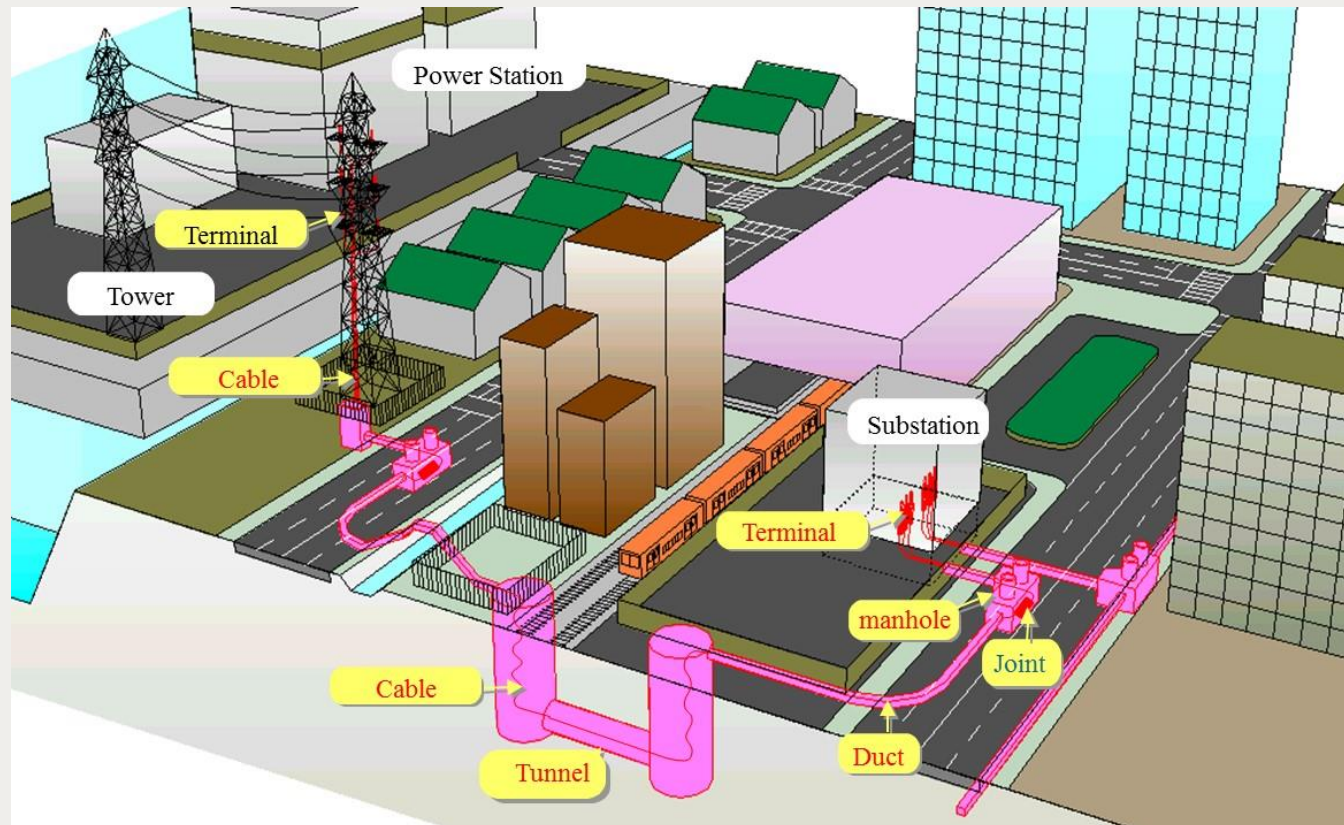


Kansai Transmission and Distribution

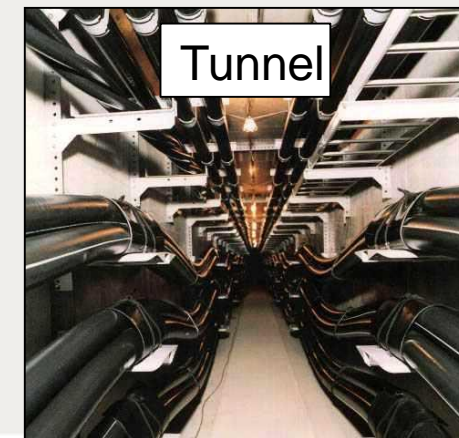
Duct System

The majority of cables are laid in the duct or tunnel system in Japan.

Duct system can contribute to the environmental impact mitigation because a cable replacement can be performed without additional civil works such as excavation.



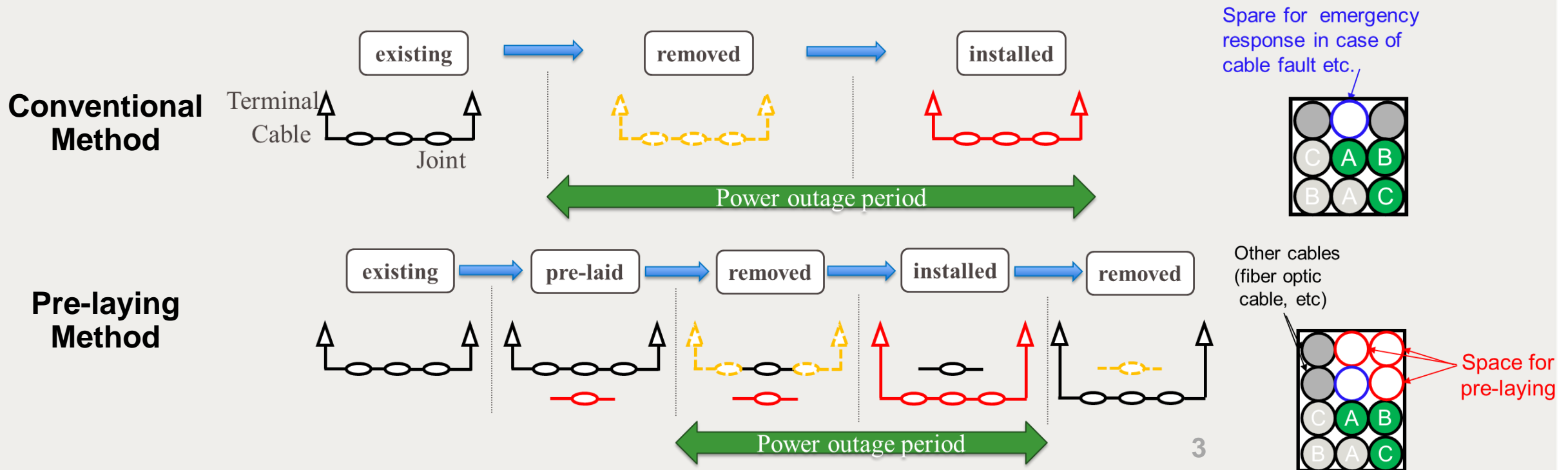
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Design concept of duct system

In recent years, **design concept of duct system has being reviewed** to minimize the impact of cable replacement on the power system reliability as well as the environment.

New concept is to secure the number of spare ducts in advance, which can be utilized with **Pre-laying method**, applicable for future retrofit with minimum outage.



Technological Development at the viewpoint of Retrofitting

The concept of **retrofit** is also important to reduce environment impact.

In a case, one piece joint with compact dimensions **newly developed** had been adopted to install XLPE in an existing narrow manhole designed for SCFF cables.

Conclusion

- Application of a **duct system is one of the effective ways to mitigate the environmental impact**, because a cable replacement work can be performed without excavations.
- To **update the design concept** is essential for **responding to social demands including environmental impact mitigation**.
- It is also important to **develop technologies** based on the concept of **retrofit**. Maximizing the **use of existing facilities** will minimize environmental impact.