

Paris Session
2022



QC Systems to Ensure Stable Power Supply at Multiple Stages

SC B1 Insulated Cables – PS1 - Q6

What lessons learned from industry practitioners for quality assurance during manufacturing and installation and preventive maintenance and training associated with operations can be shared to benefit users of cable systems?

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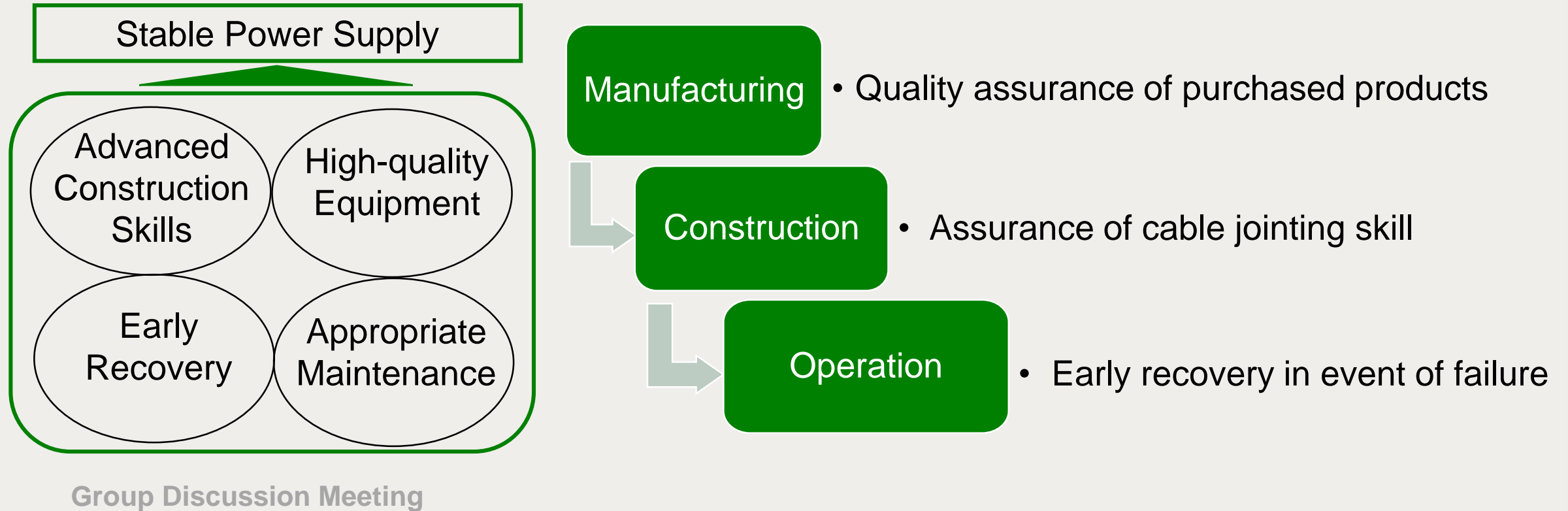
CHUBU
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Group Discussion Meeting

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Introduction

The QC systems to ensure stable power supply at multiple stages of manufacturing, construction, and operation can be introduced.



Quality Assurance of Purchased Products and Cable Jointing Work

Purchased Products

Type Approval System

This is a system in which the performance of products with high equipment importance and versatility are inspected based on standards in advance in terms of design, production method and test results by specialized department, and only these products are basically purchased and used as regular items.

Merits

TSO

Buy approved products
 ✓Confirmation by specialized dep.
 ✓Unify specifications
 ✓Lower costs

Manufacturer

Manufacture with the already approved specifications
 ✓Omission of detail design
 ✓Omission of some tests
 ✓Short delivery time

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Cable Jointing Work

Jointer Qualification System

Cable jointing work is performed by workers who have attended lectures by the manufacturer and passed assembly tests.

*At some Japanese TSOs, Jointers are not from manufacturers but subsidiaries or local construction companies at 77kV or less.

	154kV or more	77kV or less
Affiliation of jointers (Repair work)	Cable Manufactures (Same as above)	Subsidiaries of TSO or Local construction companies (or TSO's staff)
Reason	Require high skills	Large amount of construction work

Early recovery in event of failure

Identifying Fault Location

- ✓ All TSO's maintenance offices have fault location devices
- ✓ TSO's maintenance staff regularly are trained to identify fault location

Arrange Materials

- ✓ Cables and joints for recovery from failure are stored in TSO's warehouse
- ✓ Ready to be dispatched at any time by subsidiary's repair team

Repair Work

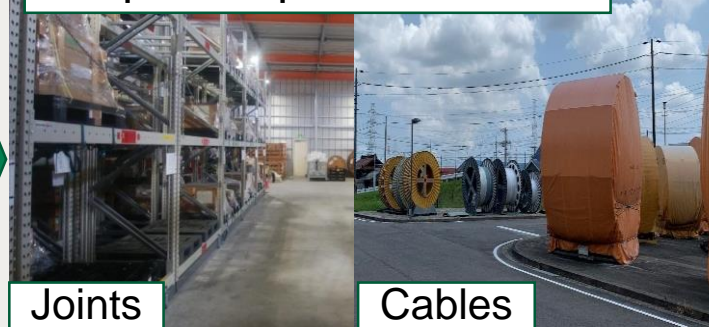
- ✓ Subsidiary's repair team can install cables and assemble joints at 77kV or less.
- ✓ There is a plan to enable TSO's maintenance staff to assemble joints in the event of a failure at 77kV or less.

Identification of failure location



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Dispatch spare materials



Joints

Cables

Repair Work

