



Roxtec on site

Cable transit seals for flood resilience and fire protection



Chubu Electric Power chose Roxtec seals for hydropower plant retrofit project

At the Minakata Hydropower Plant, operated by Chubu Electric Power, retrofits and equipment upgrades help extend the life of the facility while supporting stable operations and long-term business viability.

For the wall penetration where high-voltage cables run from the generator to the transformer, a Roxtec cable seal was used because it provides both fire protection and reliable watertight performance. This project demonstrates how aging infrastructure can be upgraded while maintaining safety and quality standards and improving overall cost-efficiency.

Chubu Electric Power operates approximately 200 hydropower plants across its service area and has for a long time relied on hydropower as a renewable energy source. The Minakata Hydropower Plant is one of them. Commissioned in 1929, it is a historic power station with an output of 28,800 kW. The plant remains in service today, with its original facilities and

"Everything went so smoothly that I would like to use Roxtec as the standard for future projects."

Site Manager, Chubu Electric Power

equipment being retrofitted as needed. The plant building is also registered as one of the "Tangible Cultural Properties" by the Japanese government, so the retrofit works had to be carried out within the constraints of the existing structure.

Combining fire protection with flood resilience

A Roxtec multi-cable transit was installed in the wall penetration where high-voltage cables pass from the generator inside the building to the transformer outside. This penetration accommodates critical power cables that connect the 6.6 kV power generated by the generator to the transformer, and the cable had a large outer diameter of approximately 58 mm. In addition to providing fire resistance, the sealing solution was also required to ensure water-tight protection. This was an essential requirement because the power plant is located near the Tenryu River in an area exposed to potential flooding.

The Roxtec cable sealing system is highly rated for delivering both fire and water protection, as well as offering excellent workability for retrofit projects.

Expert support made first-time installation smooth and easy

In addition to the sealing performance, the level of support provided throughout the design and installation process was another key factor in the decision to use Roxtec. Based on a successful case in another project within Chubu Electric Power's service area, the team also considered Roxtec seals for the Minakata project. The site manager appreciated the support available throughout the process, including site surveys, quotations, technical assistance, installation training, and onsite supervision. Despite this being a new solution for the project, the installers responded positively, largely because the system was easy to work with. The Site Manager of the Engineering Section, Iida Hydropower Center,



Renewable Energy Company, Chubu Electric Power Co., Inc. said:

"We were able to improve cost-efficiency without compromising on safety or quality. The flexibility of the system also made onsite work highly efficient. Everything went so smoothly that I would like to use Roxtec as the standard for future projects."



Multidiameter™ helps reduce installation time

The leader of the installation team particularly valued the flexibility of the sealing modules featuring Multidiameter™ by Roxtec, noting its significant contribution to increased efficiency.

"With Roxtec seals, the module layers can be peeled off on site to adapt to the cable diameter. This reduces the need for time-consuming planning and preparation. This also helps avoid interruptions caused by uncertainty or mistakes during installation, reducing the burden on field workers."

Thanks to the improved work efficiency, cost-efficiency was also improved and the project could be completed without any delays.

Why use Roxtec?

- Multi-hazard protection
- Flexibility that improves installation efficiency
- Technical support
- Cost-efficiency

"We were able to improve cost-efficiency without compromising on safety or quality."

Site Manager, Chubu Electric Power



Project facts

Project description

Retrofit project of aging substation equipment inside a hydropower plant

Companies involved

- Chubu Electric Power Co., Inc. – owner, operator and basic design
- C-TECH Corporation – detailed design and installations
- Bridges Co., Ltd. – consulting distributor

Applications

Sealing of wall penetration for high-voltage cables

Sealing requirements

- Fire protection
- Watertightness

Roxtec products

Roxtec GH transit

[See more on roxtec.com](https://www.roxtec.com)

Protecting life and assets

Roxtec is the world leader within flexible cable and pipe transits. Since the start in Sweden in 1990 we have grown successfully to cover all continents. Our passion is innovative sealing solutions, and our goal is to make our world a safer place.

- Extensive R&D resources and advanced test facilities
- Customers in more than 80 markets
- Inventor of Multidiameter™