CASE STUDY

CCS Network (ME) Ltd

Blyth 275 kV — Fourstones circuit

SITE	CUSTOMEI	DATE OF APPLICATION
Blyth 275 kV substati Fourstoı circuit, Northun	Nationa Grid	July 2010

POLLUTIO TYPE	EQUIPMEN	DURATION
Saline pollutio from the estuary	3 wall bushing 275 kV	3 days

The challenge

Blyth stands beside the river Blyth. Salt from the estuary loads the wall bushings, and a salted surface is what drives leakage current on towards flashover. The Fourstones bushings carried hydrocarbon grease and a pink silicone grease. Both were saturated, and neither was still doing the job.

The solution

In three days in July 2010 the three bushings were reached from mobile elevating work platforms. Grease came off with scrapers, then scourers and rags, and was finished by hand until no hydrocarbon or silicone grease remained. Metalwork was covered, and RTV silicone HVIC was sprayed onto the clean porcelain. The outage was three days.

The result

Adhesion and thickness were checked and recorded as sufficient. The circuit was handed back with a smooth light-grey hydrophobic film instead of grease that the estuary had already used up.



After



Before

Long-term performance

SURVEY DATE	CUSTOMER	POLLUTION TYPE
24 June 2022	National Grid	Saline and construction dust

EQUIPMENT
275 kV, 132 kV and 66 kV insulators

On 24 June 2022 CCS surveyed the whole Blyth substation. The majority of the insulators carry RTV silicone HVIC, and that coating has given reliable maintenance-free protection for more than 10 years. The yard is exposed coastal ground, close to construction, so salt and dust still land on the porcelain. Some circuits were still on hydrocarbon grease, and some porcelain was still bare. CCS recommended

cleaning and an overcoat with RTV silicone HVIC. The photographs are the in-service yard.



In service



In service
