

With the support of CIGRE Committee B1 : Insulated Cables

WETS'15 QUESTIONNAIRE

World Energy Transmission System

Form N° ...

Achievement and experience in service of long length (> 10 km), HV, EHV and UHV electrical links by AC and DC insulated power cables

The results of the surveys for WETS'05 / WETS'07 / WETS'11 are available on the site jicable.org page Workshops. See also CD Roms WETS'07 and WETS'11

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1 – HV, EHV and U	JHV Insulated power	cables AC links			
1.1 – Geographica	al situation of the link	::			
Country:		Germany			
Area :		NRW			
1.2 – Characterist	ics of the link:				
Network :		power plant link			
Link name :		Kraftwerksanschluss Niehl 3			_
Nominal power (MW):		480 MVA			
Nominal vol	tage (kV):	380 KV			
Link length ((km) :	9 km			
Number of o	circuits :	1			

NA2XS(FL) 1x1600 RE/200+FO_ Cable type: Manufacterer(s) NKT Installation: underground (in tunnels, in ducts, in concrete, directly buried...), submarine (embedding depth, cable _underground pipes in concrete, triangle, trench size ca. 1 meter (wide) x 2 meter (depth)_ Forced cooling: Yes: ___ , type:___ No: _____VPE (XLPE)___ Insulating material: polymer, paper, ... Metallic screens _cross-bonding, 3 main sections____ bonding: Lineic inductance: 0,624 mH/km Lineic capacitance: _0,187µF/km_ production-accompanying test, sample and routine tests on cables and Testing of the link (before commissioning, and during accessories, component selection, extended prequalification test of the operation): cable system, HV test after installation, measurement of zero-sequence impedance 1.4 - Is a compensation of the reactive power achieved? Yes: No: Why?: Position of the compensation: At the end, intermediary, Why? 1.5 - Characteristics of the compensation: Nominal power (Mvar): Technology: Occupied space (m²): Cost (€ or US\$): 1.6 - How are considered the problems of cable integration into the system? - Stability of voltage and frequency: - Propagation of slow transients, resonances: - Distribution of currents related to the different impedances _no problems are expected_ 1.7 - Operating results of the compensated link: Technical and economical performances: Start of operation: middle 2015

1.8 - Publications or available documents concerning this link:

1.3 - Characteristics of the cables:

Schell, F., Uhlenküken, H.: The network connection of Niehl 3 CCPP - The first 380 kV long-distance cable project in Germany since the Bewag projects in 2000, Jicable 15, paper A1.2, 2015