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Case Study 1

TEV discharge from termination / CT Chamber

The initial survey in 2002 showed high readings centred about Feeder 5A. Despite the higher switch tank, double probing picked the termination.

AIR 15 METAL WORK 16

PANEL NAME	SWITCH POSITION (OPEN, CLOSED, EARTHED, ABSENT)	BUSBAR 1 UPPER/FRONT	BUSBAR 2 LOWER/REAR	SWITCH TANK	CT CHAMBER	VOLTAGE TRANSFORMER	TERMINATION BOX	BAND JOINTS /END CAPS BUSBAR 1	BAND JOINTS /END CAPS BUSBAR 2
Feeder 5A	C	23		50	31		31	34	
Feeder 4A	C	23		38	29		33		
Feeder 3A	C	19		33	27		28		
Feeder 2A	C	20		27	27		27		
Feeder 1A	C	22		24	23		25		

Under a scheduled outage an investigation & cleaning was undertaken. A re-test shows the dramatic improvement including a reduction to the recorded background.

AIR 7 METAL WORK 10

PANEL NAME	SWITCH POSITION (OPEN, CLOSED, EARTHED, ABSENT)	BUSBAR 1 UPPER/FRONT	BUSBAR 2 LOWER/REAR	SWITCH TANK	CT CHAMBER	VOLTAGE TRANSFORMER	TERMINATION BOX	BAND JOINTS /END CAPS BUSBAR 1	BAND JOINTS /END CAPS BUSBAR 2
Feeder 5A	C	21		10	20		20	22	
Feeder 4A	C			11	19		19		
Feeder 3A	C			12	21		21		

These photos show the discharge as uncovered prior to any remedial action. It is thought that moisture absorption by the aged insulating tube may have been the cause initiating this partial discharge activity.

The grooves on the inner surface of the tube, and 'blunting' to the bar edge shows the deterioration that is possible when insulation begins to breakdown.

Ongoing monitoring is conducted annually.