

# Possible causes of breakdown

A series of power trips on Tuesday evening led to train operator SMRT shutting down the entire North-South and East-West lines to determine the cause. Here is a look at the problems it uncovered and the extent of the closure.



## POWER SUBSTATION GLITCH

A faulty "no voltage relay", which is a type of safety switch, was found at a substation in Kranji.



## WATER LEAKAGE

A section of the train tunnel at Tanjong Pagar station had a water leak close to the third rail, which supplies power to the trains.



## DAMAGED INSULATION

The insulation of two power cables near Bishan station along the North-South Line was found to be damaged.



- There were more than 20 counts of traction power trips across the network that evening.

- When three power trips could not be reset remotely by staff at the Operations Control Centre, SMRT decided to shut down both lines to investigate the problem.

- SMRT tested trains along the East-West Line and found no problems. However, the trains ran into problems during testing on the North-South Line.