

## DETAILS OF INTERESTING CLAIM

(From EAR & CAR - Third Party Liability - Existing and Surrounding Property IMIA Paper WGP40 (05))

No: DOIC16 (CAR)

### Type of Insurance:

CAR

### Description of damaged item:

The collapse of diaphragm wall construction of Metro line

### Cause of Loss:

(3) Faulty design

### Claim Cost

40 Sing \$ mio

### Description of Incident and Loss Prevention Measures initiated:

The contract comprises the design and construction of two underground stations with adjoining cut and cover twin cell tunnels (2 km) and two bored tunnels segments (800m each). The route length of the contract is around 2.9 km.

The construction portion parallel to the Highway (a double lane Highway) foresaw usage of a cut and cover method and included the connection to the bored section at an already excavated start shaft of around 25 m meters diameter.

At the time of the loss, the diaphragm walls on both sides of the excavation site along highway collapsed inward into the already excavated construction pit, resulting in a crater measuring about 150 m long, 100 m wide and 20 m to 30 m deep.

Damage related to the construction works itself as well as to adjacent areas.

As far as damage falling under the TPL section was concerned, the following was observed:

- Along 150 m the highway subsided.
- Nine power cables of 66KV were severed.
- A 300 mm dia. water pipe was damaged.
- A 300 mm dia. gas pipe was damaged.
- A 600 mm dia. sewer line was damaged.
- A stretch of storm drain culvert fell into the crater.
- A 24.5 m section of a road overpass was de-linked to relieve stress of the structure in case of further earth movement.
- Settlement damage to nearby buildings
- Potential loss of business
- Temporary diversion of affected services

### Outline the interesting or unusual aspects of this claim or problems experienced during settlement:

The severe design faults and possibly errors in workmanship led to failure of the diaphragm walls over a length of 110 meters

## **CODES**

### **1. Type of Insurance**

M - Machinery Breakdown

BE - Boiler Explosion

LP (M) M - Loss of Profits

ALOP (DSU) - Advance Loss of Profits

EAR - Erection All Risks

CAR - Contractors All Risks (Civil)

G - Guarantee

EE - Electronic Equipment

O - Other Classes

### **2. Cause of Loss**

(1) Faulty operation

(2) Faulty material or workmanship

(3) Faulty design

(4) Other internal causes

(5) Fire

(6) Explosion

(7) Storm

(8) Earthquake

(9) Other external causes

(10) Other causes or unknown