

DETAILS OF INTERESTING CLAIM

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

No: DOIC18 (CAR)

Type of Insurance:

CAR

Description of damaged item:

The damage of the culvert constructions during the river flooding

Cause of Loss:

(3) Faulty design

Claim Cost

Description of Incident and Loss Prevention Measures initiated:

In the course of constructing a new subway line a contractor was entrusted to enlarge and modify an existing box culvert. The culvert passes through the levee-protecting city from adjacent river. The purpose of this project was to enlarge the culvert drainage system to discharge rainwater into the river as part of the subway system as well as for the city permanent drainage system.

In detail, the culvert is a reinforced concrete box structure (3.7 m height x 4.8 m width) with a steel-sliding gate to prevent river water from flowing back in times of high levels. At the time of the loss the box structure was completed but the steel gate was not yet in place. In order to prevent any back flow during construction a temporary concrete bulkhead was placed at the outer end of the culvert and the design asked for an additional earthen plug behind the concrete wall to increase the bulkhead's stability.

The Typhoon "Aere" passed releasing torrential rains in the magnitude of 900 mm. In addition, two reservoirs upstream had to release water into the river. The consequence was an exceptionally high water level in the river. During the night suddenly large quantities of river water discharged into city and ultimately a third of the city area was flooded affecting around 15,000 buildings.

Soon it was discovered that the temporary concrete bulkhead closing the culvert on the riverside had collapsed allowing river water to enter in the district.

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

Ensuing investigations revealed that the contractors actually constructed the temporary bulkhead with an 18 cm wall thickness with 13 mm rebar. The calculated design however, which was also approved by the Metro authority as principal, required a 20 cm wall thickness, 16 mm rebar and the additional earthen plug which was actually never placed. The contractor apparently hoped his estimates relative to the bulkhead's properties would be sufficient. Since renovation works on the drainage culvert are part of Subway Construction Project, the contractor's All Risk Policy of the city government (as principal) responded. Experts opinions determined a 50 / 50 responsibility / liability of the contractor and the city. The later was found liable because of failure to exercise reasonable standards of project supervision, in particular in the face of the approaching typhoon.

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