Nicoll Highway collapse

A stretch of Nicoll Highway collapse on 20 April 2004, rendering it unpassable for more than seven months. The disaster occurred due to the collapse of a temporary retaining wall of the tunnel at the Mass Rapid Transit (MRT) Circle Line at Nicoll Highway. The wall's collapse caused a cave-in and brought the surrounding area and the highway down into it, forming a 30-metre-deep ravine.[1] The tragedy left four men dead.

Background

The 759-metre-long Nicoll Highway was officially opened on 17 August 1956 to connect Kallang to the Central Business District. Built by the British at a cost of $8 million (or S$85 million today), the highway was named after the former governor of Singapore, John Nicoll. It adjoins Merdeka Bridge.[2]

Description

At about 3:30pm on 20 April 2004, while most construction workers of the MRT Circle Line tunnel at Nicoll Highway were having their tea break, the steel supports over the tunnel began to fall over, going down like dominoes into the deep tunnel.[3] The surrounding area followed suit, leaving a wide gorge scattered with twisted steel beams, cranes and rubble.[4]

The Land Transport Authority (LTA) immediately set up its crisis management centre, activating over 337 people,[5] while the Building and Construction Authority proceeded to inspect all the construction sites and buildings along the Circle Line.[6] Meanwhile, the Singapore Civil Defence Force (SCDF) Disaster and Rescue Team were activated and found find four site workers who were unaccounted for.[7] Three others who were injured were taken to Tan Tock Seng Hospital.[8] After four days of rescue operations, the search for missing persons under the tunnel was called off on 23 April because it had become too risky.[9] The collapse claimed four lives.[10]

Impact

As Nicoll Highway sank, gas, water and electricity cables snapped, causing power to go out for about 15,000 people and 700 businesses in the Marina Bay and Suntec City areas. Tenants and residents of the nearby Golden Mile Complex, where tremors were felt, were evacuated.[11]

Following the collapse, the police immediately cordoned off Merdeka Bridge and sealed all roads leading to Nicoll Highway. The road closure affected thousands of

commuters,[12] who had to use alternative routes into and out of the city. Public transport services were also diverted. Electronic Road Pricing charges were waived at the entry to the East Coast Parkway from Kallang Road.[13]

As a result of the collapse, excavation works at all the Circle Line sites under the charge of the main contractor, Nishimatsu-Lum Chang, were temporarily suspended. The completion of the Circle Line was also expected to be delayed by about a year, from 2010 to 2011.[14] Nevertheless, the Nicoll Highway MRT Station would still be built. The cost of damages arising from the disaster was estimated to run into millions.[15]

Nishimatsu-Lum Chang also unconditionally offered S$30,000 to the family of each man who died.[16] They acknowledged that monetary compensation would not assuage the grief of those who lost family members in the collapse but the sum was given to tide them over the difficult period.[17]

Report of the committee of inquiry

After the incident, the government formed a three-man committee of inquiry to probe into the cause of the collapse and present recommendations to prevent a similar tragedy.[18] The committee published its final report on 10 May 2005. It was concluded that "critical design errors" had resulted in the collapse of the earth-retaining wall system. Another significant finding was the lack of safety culture in the building project.[19] The main recommendations of the committee included: effective risk management; a good system of managing uncertainties and quality; as well as design review and independent checks.[20]

Timeline

20 April

9.00 am: Strange noises from the steel struts first heard by Kori Construction site workers at the excavation pit. Workers leave excavation pit.

2.00 pm: Workers go into the pit and use cement in an attempt to stabilise the structure.[21]

3.30 pm: MRT tunnel collapses, causing a section of Nicoll Highway to caves in. Blackout in surrounding buildings: Golden Mile Tower, Golden Mile Complex, The Concourse and Suntec City.[22]

3.40 pm: Singapore Civil Defence Force (SCDF) personnel arrive. 75 men and their rescue dogs from the SCDF's (DART) move into action.[23]

3:50 pm: Electricity restored to affected buildings.

6:15 pm: The first body of the four missing men, that of Malaysian crane operator, Vadivil Nadason, 42, is found.[24]

21 April

11:45 pm: 162 SCDF men are now involved. Rescuers find the second body, that of a Chinese national, from the disaster site.[25]

22 April

11:45 am: Body of LTA site inspector John Tan Lock Yong, 56, is found about 1.6 m under muddy waters, between a tipper truck and a container.[26] Manpower Ministry names a three-man committee of inquiry to examine how the Nicoll Highway collapse happened.[27]

23 April

Nishimatsu-Lum Chang offers an ex gratia payment of S$30,000 to each of the four families who lost a member in the tragedy.[28]

A section of the Merdeka Bridge nearest the accident site is cut off to allow the Crawford Underpass to be reopened to traffic.[29]

SCDF rescuers calls off search for the last victim, Heng Yeow Peow, 40.[30]

24 April

LTA orders all excavation work to stop at other Circle Line worksites.[31]

25 April

A 600-metre section of Nicoll highway between Mountbatten Road and Stadium Road is opened to allow drivers to reach the National Stadium , Singapore Indoor Stadium and Kallang Theatre areas.[32] Foam concrete is poured into the ground around the 30-metre-deep gap to stabilise the site.[33]

4 December

Nicoll highway is reopened to road users after a hiatus of more than seven months.

[34]

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