



Safety Advice 02-2002 (NZ)

SWITCHYARD ACCIDENT

On Sunday, 10 March 2002, two boys - an 8 year old and a 12 year old - climbed up the 3.4m wall of a zone substation and gained access to the roof of the building. A trellis, which formed part of the building structure was used during the climb. The boys crossed the roof of the building to the switchyard, which was adjacent to the building. The 8 year old proceeded to climb down into the yard via a porch roof, onto a 33,000 volt circuit breaker unit, and then onto the ground. The 12 year old, who remained on the roof, told the 8 year old to come back up because it was dangerous. The 8 year old then retraced his steps, climbing up onto the circuit breaker unit. While climbing up, he placed his left hand on a 33 kV insulating bush on the top of the circuit breaker. This action drew an arc from the live connection point at the top of the bush, to his left arm and body and to surrounding earthed metal.

He was thrown clear of the circuit breaker, falling approximately 2m to the ground. The 12 year old immediately climbed down to assist the boy. He picked him up and carried him to an external yard door, which he unlocked, laying the boy on the lawn outside. The boy had received extensive burns to a wide area of his body and broken bones from the fall. Neighbours who had heard the explosion immediately went across to the substation to assist. Emergency services were notified, and water was applied to the boy's burns.

The Fire Service arrived within 12 minutes, and provided medical care until an ambulance arrived approximately 30 minutes later. The boy was transferred to the Westpac Rescue Helicopter and flown to Middlemore Hospital burns unit. At the time of the report, he was said to be improving.

Initial investigations by the asset owner identified that the substation property was regarded as a "playground" by local children, with large numbers gathering regularly to play ball, and ride skateboards and bikes around the substation buildings. Reports were also received of children climbing onto the roof of the building. The company had not been notified of this activity.

The asset owner has taken immediate steps to increase security at the substation. These include the installation of a substation perimeter electric fence, improved property fencing and additional signage on the property boundaries. Planning is also underway for a public safety awareness programme to be launched within the company's operational areas.