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## ESAA 27/2003

DATE: 01/07/03	TXUAUSTRALIA SAFETYGRAM
DATE OF INCIDENT: 23/04/03	REPORTED BY: TXU

### Details of Incident:

On 12 April 2003, TXU received a report that a horse, carrying a rider at the time of the incident, received a fatal electric shock as it passed a pole type substation fitted with a 3-phase AEI 200kVA 1982 transformer.

Investigation revealed that an internal, high impedance fault between the low voltage winding and transformer core had caused the high voltage substation earth to assume a 240-volt potential. It was also established that the fault might have been present for an extended period of time despite no protection operation or evidence of any supply quality issues.

At the time of the incident, the ground was wet and it is believed that the horse, shod with metal shoes, received a fatal electric 'step potential' as it passed adjacent to the substation. It is believed the electric shock was received when the horse created a parallel circuit between the high voltage and low voltage substation earths. The horse did not make contact with the concrete pole.

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### Extent of injury/damage:

Death of horse

### Action taken:

- AEI 200kVA transformer removed, tested and dis-assembled to identify source of fault.
- Similar AEI equipped substation checked for a potential rise on the high and low voltage earths. No further problems with other installations of this type detected.
- Incident communicated to employees and contractors.

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### Additional comments:

TXU is seeking reports of similar incidents from the industry.