

Shared Learning

EGL feed pump trip event - TOPP1 site

What happened?

Transpower experienced a fault on one of their high voltage transmission lines causing the feed pumps at the EGL TOPP1 plant to trip offline. However, this fault did not initiate a generator protection fault, so generation continued.

Due to the loss of the feed pumps, no pentane was flowing through the preheaters, so very little heat transfer between the pentane and brine took place, resulting in an increase in brine outlet temperature. The temperature reached levels as high as 160 degrees C.

What did we learn?

The control system will shut the plant down after 10 minutes without any feed pumps in operation however the brine outlet from the preheaters reached temperatures above saturation before the station trip was automatically initiated.

There was no damage to the plant or reinjection pipeline because of this event

Additional control measures are under development to prevent the preheater outlet to the reinjection line reaching temperatures where there is a risk of a water hammer event.