A Close Call for a Major Electricity Facility

In the early hours of Wednesday 3rd December 2003, a major storm caused a torrential downpour in a few northern suburbs. A much larger area of Melbourne's north received moderately heavy rains over a two hour period.

The catchments most affected by flash flooding appeared to be Merri Creek and the lower reaches of the Yarra River.

Moonee Ponds Creek, running under several kilometres of the Tullamarine Freeway and CityLink's "Western Link" did not break its banks to any significant degree.

However, water marks on concrete structures in Moonee Ponds Creek downstream of Arden Street, North Melbourne, show that the high water mark was within a metre of flooding railway sidings on the North Melbourne (east) bank, and the West Melbourne Terminal Station electricity facility on the western side of the creek.

The West Melbourne Terminal Station is a critical element in Melbourne's energy infrastruture. Since privatization, it is owned by SPI PowerNet. It lies on a levelled area of land between Moonee Ponds creek to the east, Lloyd Street to the west, Arden Street to the north, and rail lines to the south. Importantly there is no levee bank to protect it from flash flooding of the creek, and its control room is at ground level in the south-east corner of the site.

Several factors seem to have developed in recent times to increase the strategic risk of this already vulnerable low-lying site:

1. Global warming, approximately half due to the global electricity industry itself, is already raising sea levels.
2. Water authorities have put a deflection barrier where Moonee Ponds Creek enters the Yarra River, presumably to facilitate river navigation during flood conditions. However this barrier appears to restrict the outflow of Moonee Ponds Creek into the Yarra, beneath the Bolte Bridge.
3. Transfield-Obayashi has constructed nineteen concrete pylons in the bed of the creek. These massive concrete cylinders support the elevated roadway of Western Link as it heads south to the Bolte Bridge. They have large square concrete bases approx. 5 metres square, extending from the creek bed to about 1 metre above the high tide line (Moonee Ponds Creek is semi-estuarine at this point in its course.)
4. Transfield-Obayashi, in developing a cycle path along the creek, has significantly obstructed water flow under at least one rail bridge downstream of Arden Street.
5. A second more elevated rail bridge nearby has extensive approach embankments which completely obstruct the natural "flood plain" on the sloping banks of the creek. This is a long-standing feature of an early 20th century rail system.
6. A spin-off effect of global warming is that more intense weather systems are predicted to dump more intense rain events in many areas of the world, including southeastern Australia, according to the CSIRO's climate scientists.

On the night in question, luck was on the side of Melbourne's electricity customers. The thunderstorm was not associated with a low pressure weather system. The tide at 2am (Daylight Saving Time) was already well on the way out to a low tide at 4am. As mentioned

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before, most of the thunderstorm's deluge occurred slighty further east, in the Merri Creek catchment area. Despite these positive factors, the facility's control room came within a metre of flooding.

Given the evidence submitted above, it is suggested that a review be conducted by relevant bodies dealing with security of electricity supply. Specifically: should SPI PowerNet urgently construct levee banks around the terminal station. Should they elevate the control facility to the height of the EHV bus, or the tops of the transformers? Should Transfield-Obayashi contribute financially, as their design and placement of concrete columns in the creek bed appears to significantly obstruct the natural water flow? Should the EHV grid be scrapped entirely, due to it's effect of perpetuating the rape of planet earth by global warming?

Photos showing evidence of water levels:

Western side (Lloyd Street) where wood chips indicate the high water mark

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Debris on a tree-guard, about 1.5 to 2 metres below No3. Capacitor Bank

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CityLink pylon clearly showing top of flood level. Camera lens was *exactly* positioned at that height, so the line on the picture accurately shows peak water level on the opposite bank of the creek, barely one metre below ground level in the terminal station.

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Infrastructure at the terminal staion can clearly be seen between the two concrete columns. Again, the peak flood level mark demonstrates less than one metre clearance between flood height and TS ground level.

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