



All Hail - Nature At It's Most Damaging

Alan Whitehead, Facilities Manager, TestSafe Australia

On a Spring Saturday heavy cumulus clouds began to gather and rise near the Blue Mountains escarpment to the south west of Londonderry. It was late in the morning of 25 October 2003, and just a few kilometers from the nearby Nepean River. At that time of the year, and indeed from early Spring to mid Autumn, such cloud development occurs on a regular basis.

Towering cumulus cloud develops because the sun, high overhead and baking the earth of the Cumberland Plain, creates cells of convective instability due to rapidly rising hot air. The rising air, in turn, causes the moist north easterly sea breeze to flow. Provided enough solar energy is available this coastal air can reach as far inland as the escarpment in the late morning to early afternoon, providing more moisture to the already unstable atmospheric conditions. Given enough energy, massive vertical convection columns develop, and often produce the classic Sydney afternoon thunderstorms that then usually follow one or other of the three major Sydney river courses back to the sea.



TestSafe drenched and damaged by the Spring Storm



TestSafe's Mechanical Testing Building becomes Asbestos free (note the worlds biggest asbestos eaves gutter)

On 25 October there was far more energy involved in this process than usual. Enough to push a developed thunderstorm cell across the Nepean River and over the edges of the Cumberland Plain. The energy filled thunder clouds continued to develop into a heavy hail storm that cut a 500m swathe across parts of Llandilo and Londonderry, including the TestSafe site.



Building 13 roof and cladding stripped



Building 13 completed with colourbond roofing and walls

A continuous torrent of hail stones up to 40mm in diameter poured out of the clouds as the storm passed overhead, covering the ground and anything upon it with a layer of ice. A few staff working overtime rushed out of the buildings to inspect their motor vehicles for damage, which for some was extensive, but the fun was not over, yet. The passage of the storm became confused as it progressed easterly toward the hot plains and it turned to find its way back to the cooler course of the river. Right back the way it had come. TestSafe copped a second pasting! Staff looked on in dismay as their vehicles received another pounding in the car park.

“Hail as big as cricket balls bombarded the site and smashed everything in its path including roofs, cars and street lights”

The extent of damage only became apparent on the following Monday morning and it was only after several days of checks and inspections that the full extent was known. In all, the roofs of 8 buildings and fixed structures totalling 2700 m² had been damaged beyond repair, two roofs had been damaged but were repairable. Roof mounted air conditioning equipment, exhaust ducts and ventilators had been damaged or destroyed, and a large quantity of electronic equipment had been damaged by entry of water into buildings because of broken flashings and ice-blocked gutters and downpipes. A comprehensive asbestos cleanup program was initiated immediately for the Mechanical Testing Building and other areas that presented a potential health risk. All affected roofs with penetrations were securely tarpaulined, furniture, equipment and valuable items at risk were moved to storage containers. Assessors arranged by the Treasury Managed Fund inspected buildings and equipment, and the tedious process of tendering for repairs began.



Building 8 old termite damage revealed by the storm

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Building 17 rear awning roof replaced

shame termites don't appear to suffer from asbestos related respiratory complaints).

All-in-all, not only have existing and potential health hazards been removed from affected buildings, but the physical appearance of many of the buildings has been enhanced and the internal natural light values in Buildings 10 and 13 have been substantially improved.

It is said that every cloud has a silver lining. In this case, every one of the asbestos cement roofs existing on the site had been destroyed. What had been slated for eventual replacement as a capital funding exercise had become, instead, an insurance responsibility.

Finally, repairs commenced on 27 April 2004 and were completed on 27 July, two weeks ahead of schedule. In addition to the hail damage repairs totalling \$422,895, the opportunity was taken to remove as much as practical of the remaining asbestos cement based cladding materials that remained at TestSafe, in the process. This included the removal and replacement of roof soffits, fixed louvre vents, raked ceiling panels and external wall claddings and insulation materials. A number of unforeseen surprises came to light with the stripping of roofing and ceiling materials, such as old termite damage, damaged electrical wiring and non-conforming fluorescent light fittings. These remedial works consumed a further \$112,860 from maintenance funding. (It's a



Building 10 after removal of asbestos roof cladding



Building 10 showing new roof and vent with side AC louvre vents replaced with fixed cladding