Controlling Critical Risks
Improving Systems

Barbecuing leads to innovative ideas to minimise dust

The 22.4 kilometres of Rozelle Interchange Project tunnels are being fit out by both the Back End Works team and the Mechanical and Electrical Teams while still under excavation by 23 roadheaders.

As these well-coordinated interfaces increase, reducing dust at the source remains a critical part of the Project's health and safety controls.

Inspired by the extraction mechanics of a barbecue rangehood, the Project's Tunnel and Mechanical Engineering Teams collaborated to design a steel "Shroud." The shroud is fitted to the excavator and encloses the trimming wheel attachment. The shroud is then connected to a scrubber via flexible ducting, allowing dust to be captured at the source. Capturing dust at the source is a key concept in mitigating against exposure to respirable crystalline silica throughout the industry.

Previously, the drains would have been cut and dust would be collected through the normal ventilation setup i.e., enclosing that section of the drive with a Brattice curtain and scrubber at one end.

This innovation allows the scrubber and excavator to move freely within the drive without the laborious and time-consuming brattice setup.
It also minimises waste generation as the brattice typically used to enclose the work zone is often unable to be reused and is put in a bin after single use.

Acknowledged as industry-leading innovation, this is another example of how we are all looking to work smarter to keep everyone safe, both now and in the long term.

Plans are underway to develop a similar shroud attachment protype for the rock hammers used in the tunnel.