Case study 706
Power plant requires ventilation system

The increasing popularity of hydroelectricity as a renewable energy source has led to a large number of power plants opening in recent years. So when an existing power facility required renovation of a large tunnel on its site, appropriate air circulation was essential before work could proceed. The tunnel in question was almost a kilometre in length and featured holes approximately 2.5m wide at 180m intervals.

Before work is carried out in confined passageways, suitable measures must be taken to disperse dangerous fumes and extract dirt and dust from the air. Enclosed spaces therefore present a number of hazards to operatives – most crucially, a pressing lack of oxygen. Generally speaking, 21% of air is comprised of oxygen, with industry regulations stating that this figure cannot be allowed to fall below 19.5%.

Those in charge of overseeing this particular project therefore had to ensure compliance with all health and safety regulations prior to allowing workmen on site. At this juncture, Andrews Ventilation were contacted and asked to recommend a viable solution with the above requisites in mind. We proposed deploying a high capacity FV600 fan outside the tunnel and using lengths of ducting to force fresh air through various entry points.

The contractor in charge was keen to have the fan up and running at least an hour before work started every day. Once the unit was delivered, it remained on hire for around two months while structural adjustments were made. Our client was delighted with the impact of our equipment and swift delivery which allowed engineers to remain on schedule despite challenging circumstances.

Air flow (max) 12,100m3/h
Power supply 415V 3ph 50Hz Run 6A
Plug type BS4343 5 pin 16A 415V
Generator size 20kVA min
Duct length (max) 40 metres
Duct size Inlet 600 mm, Outlet 450 mm
Noise level (max) 83 dBA @ 1m
Weight 245kg
Dimensions (mm) 1,115 x 1,115 x 1,350
Control Manual
Average power consumption 4.25kW/h