Date 26 October

To A-North Development Team

CC Gary du Randt

From Frans Swart (Senior Ventilation Engineer)

Subject Outstanding performance of the KOVENT 1400mm Ventilation run used.

Introduction

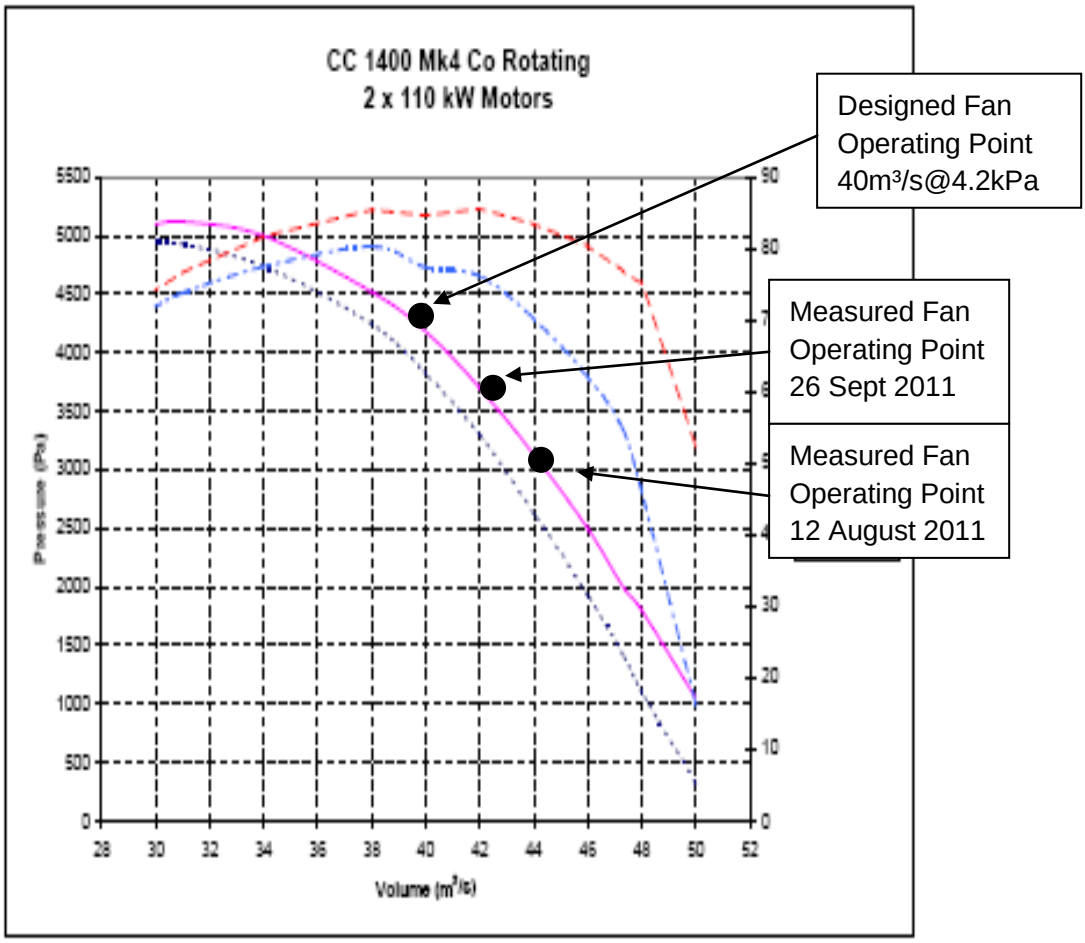
The A-North Development team and the Ventilation Engineering team of Olympic Dam were really impressed with the quality and performance of the 1400mm KOVENT Ventilation run.

Ventilation set up

The decline is ventilated by means of a T/S 110kw (220kw) 1400mm fan via a 1400mm diameter flexible ventilation run.
Fan designed operating point is 40m³/s@4.2kPa

Ventilation Measurements

12 August 11	**26 September 11**
Intake Velocity 21.1m/s x 0.87 CP Factor = 18.36m/s Screen area: = 2.43 m² Volume of air = 44.6 **m³/s**	**Intake** Velocity 19.8 m/s x 0.87 CP Factor = 17.2 m/s Screen area: = 2.43 m² Volume of air = 42.0 **m³/s**
Discharge Velocity 29.5m/s x 0.87 CP Factor = 25.67m/s Area of duct = 1.33 m² Volume of air = **34m³/s**	**Discharge** Velocity 22.5 m/s x 0.92 CP Factor = 20.7m/s Area of duct = 1.33 m² Volume of air = **27.53m³/s**
Length of vent duct = 1490m* Air volume loss over 1490m,as measured = 10.6m³/s Leakage, per 100m of duct **= ±1m³/s/100m** Leakage = 23%	Length of vent duct = 1751m* Air volume loss over 1751m,as measured = 12.8m³/s Leakage, per 100m of duct **= ±1m³/s/100m** Leakage = 34.4%
24 October 2011 (Just before Breakthrough)	
Fan Total pressure: 4170Pa	Length of vent duct = 1980m*



Conclusion:

With the following results achieved we were impressed with the installation and the performance of the KOVENT 1400mm flexible ducting. According to historical figures the K-Factor for Flexible Ducting is between 0.012 – 0.042 Ns^2/m^4

After all measurements were taken we calculated a K-Factor of 0.0011 Ns^2/m^4, better than the preferred galvanised pipes used with a K-Factor of 0.0037 Ns^2/m^4

One advantage we had was that the column was installed in a straight decline with no sharp bends and turns which could have had an effect on the results, but still these ducting performed well and everyone involved should be proud.

Your's in health and safety

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