

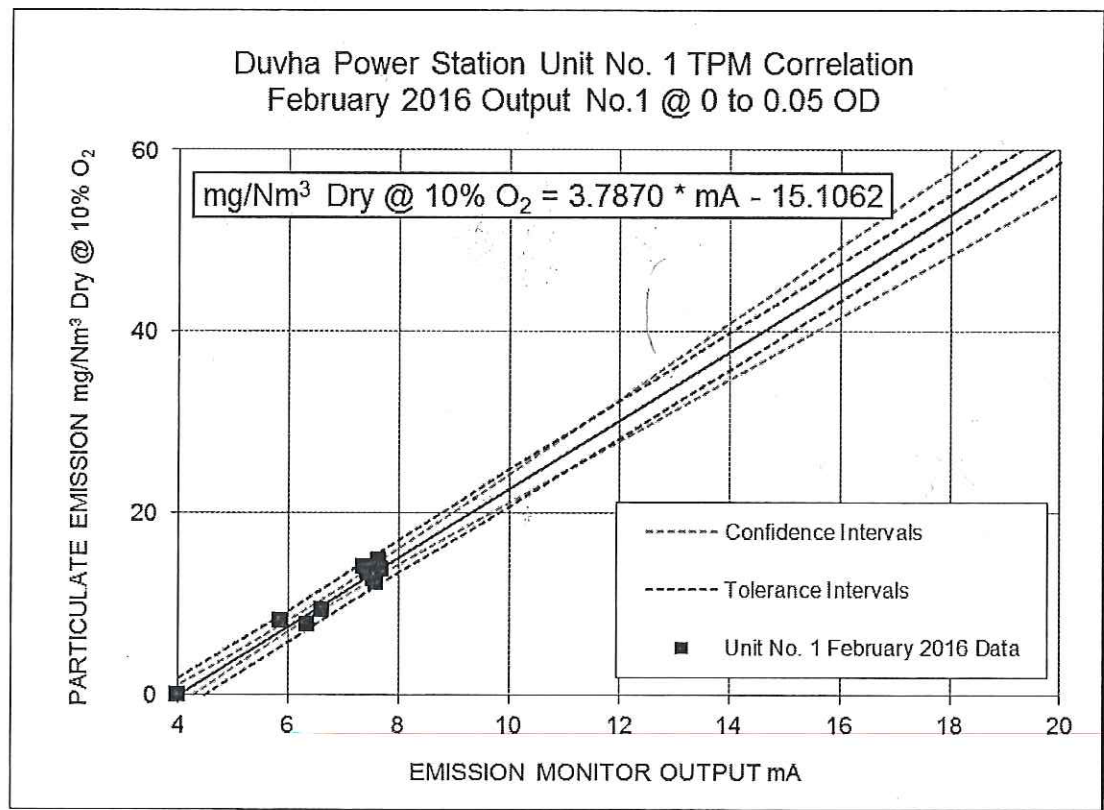
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Results Summary

Unit No. 1 Particulate Emission Monitor Correlation Equations

Duvha Power Station Unit No. 1					
February 2016 Correlation					
Output No.	Issued Date	Function	Correlation	*MME	Monitor
	yyyy/mm/dd	mg/Nm <sup>3</sup> (d) @ 10% O <sub>2</sub> = m * (mA or %CH) + c	Coefficient	mg/Nm <sup>3</sup> (d) @ 10% O <sub>2</sub>	Range Ext
✓ 1	2016/03/07	3.7870* mA - 15.1062	0.99	14.9	0 to 0.05
✓ 2	2016/03/07	11.3611* mA - 45.4024	0.99	14.9	0 to 0.15
1	2016/03/07	0.6059 * %CH + 0.0419	0.99	14.9	0 to 0.05
2	2016/03/07	1.8179 * %CH + 0.0419	0.99	14.9	0 to 0.15

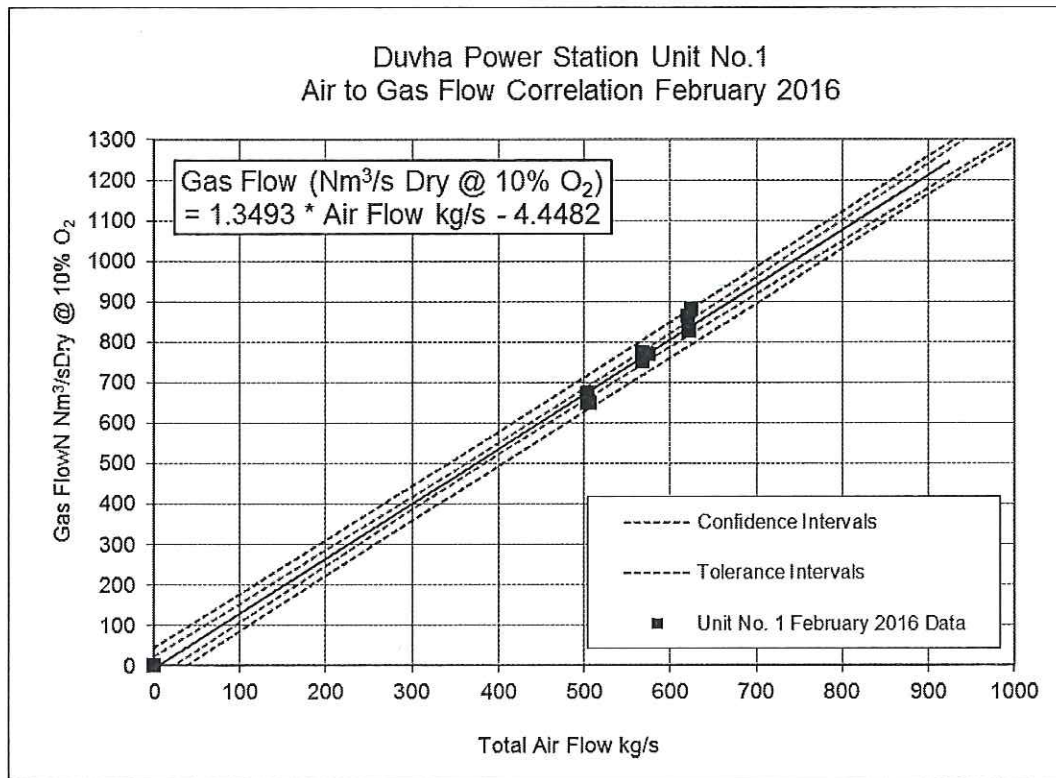


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Unit No. 1 Air flow to gas flow correlation

Duvha Power Station Unit No. 1					
February 2016 Correlation					
	Issued Date	Function	Correlation	*MMGF	Monitor
Output No.	yyyy/mm/dd	$\text{Nm}^3/\text{s (d) @ 10\% O}_2$ $= m * \text{kg/s Air Flow} + c$	Coefficient	$\text{Nm}^3/\text{s (d) @ 10\% O}_2$	Range
n/a	2016/03/07	$1.3493 * \text{Air Flow (kg/s)} - 4.4482$	0.99	880.7	n/a

\*MMGF: Maximum Measured Gas Flow during correlation period  
Gas Flow reported as  $\text{Nm}^3/\text{s}$  Dry corrected to 10%  $\text{O}_2$



All minimum requirements as set in ISO 10155 and ESKOM Standard for Emission Monitoring and Reporting (420-56242363) have been met. The resultant correlations, as presented above, are therefore in compliance with the standards and are representative of the current plant conditions.

**Report Recommendations**

It is recommended that:

- The particulate emissions from Unit No. 1, reported to the authorities, are according to the correlation functions presented in Figures No. 1, 2 & 3 of this report.
- New compliant correlations are conducted on these units during the first quarter of 2018.

Unit 2	Emissions correlation curve constants at 10 %O <sub>2</sub>	
	m	c
AO1	1.0001	-3.7401
AO2	2.0002	-7.7405
Gas flow rate at 10 %O <sub>2</sub>		
DCS	a	k
	1.105	-54.715

Unit 6	Emissions correlation curve constants at 10 %O <sub>2</sub>	
	m	c
AO1	5.3072	-21.9436
AO2	20.8355	-84.0569
Gas flow rate at 10 %O <sub>2</sub>		
DCS	a	k
	9.221	-80.549

Where:

Y – Particulate Emissions [mg/Nm<sup>3</sup> (d) at 10 % O<sub>2</sub>]  
 AO1 – Analog Output 1 [mA]  
 AO2 – Analog Output 2 [mA]  
 mA – Monitor Output signal  
 G – Gas Flow [Nm<sup>3</sup>/s (d) at 10% O<sub>2</sub>]  
 Air Flow (Unit 2) – [kg/s]  
 Air Flow (Unit 6) – [%]