Duvha particulate emissions correlation curves

Unit	A/O	Emission Equations	Extinction ranges	Operating range	Gas Flow	Curve implementation date
1	A/O 1	Y = 3.787 * mA - 15.1062	0.0 - 0.05	0 - 60.6	G = 1.3493 * (kg/s) - 4.4482	11-Mar-16
	A/O 2	Y = 11.3611 * mA - 45.4024	0.0 - 0.15	0 - 181.8		
2	A/O 1	Y = 2,7275 * mA – 10,6499	0.0 - 0.30	0 - 43.9	G = 1.105 * (kg/s) - 54.715	13-Mar-17
	A/O 2	Y = 6,8188 * mA – 27,0150	0.0 - 0.75	0 - 102.09		
4	A/O 1	Y = 8.0417 * mA - 37.00	0.0 - 0.23	0 - 123.8	G = 1.0031 * (a) - 6.135	29-Mar-17
	A/O 2	Y = 38.4604 * mA - 158.68	0.0 - 1.1	0 - 610.5		
5	A/O 1	Y = 6.9302*mA - 28.95	0.0 - 0.23	0 - 109.7	G = 0.882 * (a) - 13.045	29-Mar-17
	A/O 2	Y = 33.1448*mA - 133.81	0.0 - 1.1	0 - 529.1		
6	A/O 1	Y = 5.3072 * mA - 21.9436	0.0 - 0.27	0 - 84.2	G = 9.221 * (a) - 80.549	19-Nov-15
	A/O 2	Y = 20.8355 * mA - 84.0569	0.0 - 1.06	0 -332.7		

	Number	DEA Ref	Stack	Date of incident commencement	Date when 48h or 72 grace were exceeded	Date of incident end	No of days under S 30	Corrective action/ additonal information requested from the authorities
	1	14/7/6/2/4/2/1008&/3083062016	4	10/06/2016	12/06/2016	12/06/2016	1	1.Sulphur flow meter was replaced with original flow. 2.Convertor outlet temparature was increased.3. Shift managers to ensure that the unit controller must report daily/hourly emission avarages on ops log.
	2	14/7/6/2/4/2/1041 & I3346092016	4	06/09/2016	08/09/2016	08/09/2016	1	1.Operating personell to undergo refresh training on so3 plant.2.Production personell to be sensitised on the importance of conducting risk assessment and intergrated plans for future SO3 activities before they commmence.3.Clarify and communicate to technical personell Egnineerin Maintenance Ops, and Production the proper interpretation of 48hours maintenance window and other AEL requirements.
	3	14/7/6/2/4/2/1055 & I3462102016.	6	12/10/2016	14/10/2016	14/10/2016	1	1.Training for C&I and Maintenance on the Emission flow meters.2. Make new emission flrow meter a stock item to ensure that its is readly available.3. SO3 plant training for C&I and Maintenance.4. Production to take the lead and ensure that aal defects that have potential to contravene the Atmospheric Emission Licence are prioritised when emission reaches 75mg/Nm3 production must cordinates all the relevent personell to solve the issue

	4	14/7/6/2/4/2/1089 & I3740012017	5	24/12/2016	26/12/2016	27/12/2016	1	1.Procure Emerson Software for the calibration of sulphur flowmeter2.create a light current instruction for the calibration of suplhur flow meter.3.Create QCP for the inlet damper tothe filte fan and ensure that the valve is correctly installed
	5	14/7/6/2/4/2/1086 & I3728012017	5	29/12/2016	31/12/2016	03/01/2017	2	1.Procure Emerson software for calibration the sulphur flowmeter2.Create a light current instruction (LCI) for calibrating the sulphur flowmeter.3.Create a QCP for the inlet damper to the filter fan to ensure that the valve is correctly installed
	6	14/7/6/2/4/2/1093 & I3746012017	6	11/01/2016	14/01/2016	29/01/2017	18	1.DHP (VSD and Exhauster system) must be available for Operating to ensure a proper START-UP according to procedure TR075.2.ESP Engineer to revise procedure BL027 with Operating to ensure proper reporting of the status of the ESP fields and dust hoppers.3.If unit 4, 5 and 6 is being returned to service with one EFP, a Risk Assessment must be done to address the impact that will have on the DHP and SO3 plants whose performance is load dependent. 4.Request unit shutdown to repair the damaged fields and mechanically stiff rappers

	7	14/7/6/2/4/2/1097 & I3760012017	4	19/01/2017	21/01/2017	22/01/2017	2	1. Auxiliary Engineering (Civil) to include the scope of fixing leaks on the ducting (roof) during an Outage or opportunity2. Boiler Engineering to include the scope of fixing the precips that are out during Outage.3.C&I Engineering to procure a reliable level sensor for the sulphur tank and make a stock item.
	8	14/7/6/2/4/2/1110 & I3864022017	6	14/02/2017	11/01/2017	15/01/2017	1	1.Review the Electrical outage scope of work for precipitators 2.Train the Electrical Maintenance responsible person/s 3.Train the Electrical Engineering responsible person/s 4.Repair plate rapper no.5.
	9	14/7/6/2/4/2/1129 & I3978042017	4	14/03/2017	11/03/2017	14/03/2017	1	1.Train C&I Engineers on SO3 plant . 2.Train C&I Maitenance on SO3 plant 3.Create a Works Instruction for calibration of the sulphur control valve. 4.Monitor Howden contract on all call outs associated with SO3 plant.
	10	14/7/6/2/4/2/1130 & I3980420 17	4	17/03/2017	19/03/2017	20/03/2017	2	1.Train C&I Engineers on SO3 plant .2.Train C&I Maitenance on SO3 plant.3.Create a Works Instruction for calibration of the sulphur control valve.4.Monitor Howden contract on all call outs associated with SO3 plant.
	10							
TOTAL								