



Subject: - Reduction of SO<sub>x</sub> emission through the use of Altret CMC 2K SR Combustion Monitoring Chemical (CMC) <sup>TM</sup> - A BRIEF REPORT.

A one day project on “Reduction of SO<sub>x</sub> emission through the use of Altret CMC 2K SR Combustion Monitoring Chemical (CMC) <sup>TM</sup>” was conducted on unit No. 3 at IRVIL Veraval.

We have collected base data on 24<sup>th</sup> October during 10.00 am to 12.45 am on 24<sup>th</sup> October. We have collected relevant performance parameters from control room and also collect the fly ash and bottom ash sample. During this period we have also done Flue Gas Analysis at least for 3-4 times. The feeding of chemical Altret CMC 2K SR Combustion Monitoring Chemical (CMC) <sup>TM</sup> started from 12.45 am to 6.00 pm varies from 200 ppm to 100 ppm. During this stage we have collected the same parameters from control room and we have also collected the fly ash and bed ash samples. Flue Gas Analysis was done for six times during this period.

Our claim towards product is confirm by looking the data of SO<sub>x</sub> emissions which was collected during this projects. The average SO<sub>x</sub> was measured @141 ppm during without the use of chemical was reduced @ 24 ppm during the use of chemical. The dosage of chemical was change from 200 ppm to 150 ppm and lastly 100 ppm during this period. In spite of other variable parameters (high combustor Temperature) during this project it confirm the positively of the project as SO<sub>x</sub> reduction.



# ALTRET PERFORMANCE CHEMICALS GUJARAT PVT. LTD.

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## 24th October 2008 Project at IRIL for SO<sub>x</sub> reduction

SR NO	PARAMTERES	UNIT	TIME - WITHOUT CHEMICAL				average	TIME - WITH CHEMICAL					average
			10.10 am	11.00 am	12.15 am	2.05 pm		2.50 pm	3.45 pm	4.40 pm	5.15 pm		
	CONTROL ROOM												
1	Combuster Temp.	° C	926	925	930	<b>927</b>	945	943	940	945	940	<b>942.60</b>	
2	Furnace Temp.	° C	722	715	730	<b>722</b>	715	712	705	720	705	<b>711.40</b>	
3	F.G.Temp. SH I/L	° C	552	553	553	<b>553</b>	550	550	543	555	548	<b>549.20</b>	
4	F.G.Temp.MDC I/L	° C	487	488	482	<b>486</b>	478	478	475	475	476	<b>476.40</b>	
5	F.G.Temp. Eco I/L	° C	469	468	465	<b>467</b>	460	460	457	461	460	<b>459.60</b>	
6	F.G.Temp. APH I/L	° C	242	236	236	<b>238</b>	234	234	234	234	235	<b>234.20</b>	
7	F.G.Temp. ESP I/L	° C	136	137	137	<b>137</b>	136	136	136	137	136	<b>136.20</b>	
8	furnace pressure	mmwc	-10	-11	-9	<b>-10</b>	-11	-9	-9	-10	-11	<b>-10.00</b>	
9	ESP I/L pressure	mmwc	-158.73	-165	-157	<b>-160</b>	-154	-156	-150	-158	-154	<b>-154.40</b>	
10	O <sub>2</sub>	%	5.2	5.3	4.8	<b>5</b>	5.4	5.4	5.9	4.7	5.2	<b>5.32</b>	
11	PA air flow	TPH	78	77	77	<b>77</b>	77	77	76	76	76	<b>76.40</b>	
12	SA air flow	TPH	62+7	62+7	62+7	<b>62+7</b>	62+7	62+7	62+7	61+7	63+7	<b>62+7</b>	
13	Eco I/L Water Temp	° C	197	198	197	<b>197</b>	198	199	200	199	200	<b>199.20</b>	
14	Eco O/L Water Temp	° C	286	287	285	<b>286</b>	285	283	289	289	290	<b>287.20</b>	
15	APH O/L air temp - PA	° C	183	184	184	<b>184</b>	184	183	183	183	183	<b>183.20</b>	
16	APH O/L air temp - SA	° C	173	174	174	<b>174</b>	173	172	172	172	171	<b>172.00</b>	
17	HCV	%	40	40	40	<b>40</b>	40	40	40	40	40	<b>40.00</b>	
18	LIGNITE	%	40	40	40	<b>40</b>	40	40	40	40	40	<b>40.00</b>	
19	BED ASH	%	20	20	20	<b>20</b>	20	20	20	20	20	<b>20.00</b>	
20	STEAM FLOW	TPH	100	102	103	<b>102</b>	100	98.4	93	95	93	<b>95.88</b>	
21	WATER FLOW	\$	105	104	106	<b>105</b>	104	99.5	95	98.5	95.5	<b>98.50</b>	
22	STEAM TEPM	° C	509	505	505	<b>506</b>	507	505	500	508	504	<b>504.80</b>	



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## FLUE GAS ANALYSIS

			10.10 AM	11.10 AM	11.25 AM	12.15 AM	average	2.05 pm	2.45 pm	2.55 pm	3.45 pm	4.40 pm	5.15 pm	average
1	CO	%	941	1035	1188	1392	<b>1139</b>	1328	1285	1283	1210	1085	1081	<b>1212.00</b>
2	T	° C	144	146	148	148	<b>146.5</b>	150	146	146	146	146	147	<b>146.83</b>
3	A.T.	° C	32	29	33	33	<b>31.75</b>	37	38	38	33	33	35	<b>35.67</b>
4	CO <sub>2</sub>	%	12.7	12.5	12.4	12.4	<b>12.5</b>	12.7	12.9	13	12.5	12.9	13.17	<b>12.86</b>
5	E.A.	%	41	43	44	44	<b>43</b>	41	39	38	43	39	36	<b>39.33</b>
6	SO <sub>2</sub>	PPM	<b>245</b>	<b>158</b>	<b>101</b>	<b>60</b>	<b>141</b>	<b>45</b>	<b>29</b>	<b>20</b>	<b>20</b>	<b>18</b>	<b>12</b>	<b>24.00</b>
7	NO	PPM	1516	1252	1204	1204	<b>1294</b>	1471	1396	1223	1309	1137	933	<b>1244.83</b>
8	O <sub>2</sub>	%	6.1	6.3	6.4	6.4	<b>6.3</b>	6	5.9	5.7	6.2	5.8	5.6	<b>5.87</b>

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Chemical dosing of Altret CMC 2K SR							
TIME	DOSAGE		STOCK- 10000		TIME	DOSAGE	STOCK
12.45 pm	600	gms	9400		3.30 pm	450	gms 3250
1.00 pm	600	gms	8800		3.45 pm	450	gms 2800
1.15 pm	600	gms	8200		4.00 pm	300	gms 2500
1.30 pm	600	gms	7600		4.15 pm	300	gms 2200
1.45 pm	600	gms	7000		4.30 pm	300	gms 1900
2.00 pm	600	gms	6400		4.45 pm	300	gms 1600
2.15 pm	600	gms	5800		5.00 pm	300	gms 1300
2.30 pm	600	gms	5200		5.15 pm	300	gms 1000
2.45 pm	600	gms	4600		5.30 pm	300	gms 700
3.00 pm	450	gms	4150		5.45 pm	300	gms 400
3.15 pm	450	gms	3700		6.00 pm	400	gms 0

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