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[Appendix-A: Coal quality parameters]

Parameter	SYMBOL	UNIT	DESIGN COAL	CHECK COAL 1	CHECK COAL 2
High calorific value as received basis	Qv.ar	MJ/kg	26.4	25.3	24.7
Industrial analysis					
Total moisture content as received basis	Mt	%	12	16	19
Moisture content as air dried basis	Mad	%		6	
Ash content as received basis	Aar	%	11	15	10.1
Volatile matter content as received basis	Var	%	27	25	24.9
Elementary analysis					
Carbon content as received basis	Car	%	65	60	60.5
Hydrogen content as received basis	Har	%	3.8	3.6	3.4
Oxygen content as received basis	Oar	%	6.2	3	5.1
Nitrogen content as received basis	Nar	%	1.5	1.7	1.4
Sulphur content as received basis	Star	%	0.5	0.7	0.5
Grindability factor	HGI		50	42	50
Ash deformation temperature	DT	℃			
Ash softening temperature	ST	℃	1250	1170	1250

Source: Operation manual,Lakvijaya Power Station

[Appendix-B: Sample of data set obtained]

Date/Time	Power (MW)	Coal rate (T/h)	Air flow(T/h)	Furnace Pressure (Pa)	PA Pressure (kPa)	PA temp(°C)	Burner angle(°)	SA Pressure (kPa)	SA Temp(°C)	LoI(%)
1/26/17 00:00	301.388	110.65	1030.124	-56.627	10.636	167.62425	11.652	2.445	329.815	5.3
1/25/17 16:00	298.751	111.291	1012.849	-83.437	10.642	162.1045	11.638	2.406	326.107	4.91
1/25/17 08:00	298.943	109.217	1012.472	-68.872	11.208	153.195	11.661	2.466	338.413	3.86
1/25/17 00:00	299.053	110.013	1016.517	-66.296	11.101	160.242	4.474	2.553	336.869	4.48
1/24/17 16:00	274.416	101.266	962.222	-30.201	11.029	154.5025	13.62	2.47	331.893	3.21
1/24/17 8:00	223.412	84.021	831.54	-73.193	11.608	154.59	-9.561	1.716	317.233	3.45
1/24/17 00:00	224.264	83.604	830.15	-73.636	11.27	150.0093333	-9.538	1.759	314.118	3.82
1/23/17 16:00	227.395	86.021	841.402	-56.091	11.345	148.0903333	4.369	1.809	310.366	3.05
1/23/17 08:00	227.972	86.136	833.542	-79.983	11.364	154.9416667	7.234	1.863	332.979	3.72
1/23/17 00:00	227.395	85.907	832.195	-51.287	11.376	146.7433333	7.23	1.887	331.668	3.21
1/22/17 16:00	227.203	85.65	835.922	-41.106	11.684	149.18	7.244	1.825	329.869	3.73

[Appendix-C: Heteroscedasticity Test]

Heteroscedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.365610	Prob. F(4,80)	0.8324
Obs*R-squared	1.525946	Prob. Chi-Square(4)	0.8220
Scaled explained SS	1.195053	Prob. Chi-Square(4)	0.8789

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 12/04/17 Time: 12:51
Sample: 1 85
Included observations: 85

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.588245	0.324437	1.813125	0.0736
AIR_TO_COAL_RATIO_	1787.756	2629.833	0.679798	0.4986
PA_PRESSURE_	-0.000326	0.000275	-1.185710	0.2392
PA_TEMP_	-2.11E-10	9.47E-10	-0.223013	0.8241
SA_PRESSURE_	-0.018665	0.146030	-0.127814	0.8986

R-squared	0.017952	Mean dependent var	0.355236
Adjusted R-squared	-0.031150	S.D. dependent var	0.475176
S.E. of regression	0.482520	Akaike info criterion	1.437434
Sum squared resid	18.62606	Schwarz criterion	1.581120
Log likelihood	-56.09096	Hannan-Quinn criter.	1.495229

H_0: Homoscedasticity
H_1: Heteroscedasticity

$P > \alpha$

$0.8324 > 0.05 \longrightarrow$ Accept H_0

According to BPG test for checking the heteroscedasticity which is one of the violations of assumptions in OLS H0 is accepted at 5% significant level indicating that heteroscedasticity does not exist in the model.