



**MINUTES OF MEETING BETWEEN MAHANADI COALFIELDS LIMITED (MCL), LINGRAJ OCP TALCHER AND ABHITECH ENERGYCON LTD (AEL) FOR THERMOL-D PERFORMANCE EVALUATION REPORT**

Dated: 28/06/2021

Reference: PO No. GM/LA/MMD/3(3)/77/Excvt/e-T/19-20/510011432/150		Dated: 03.02.2020
Equipment	Without Thermol-D	With Thermol-D
Dumper-623 (CAT)	1-Dec-20 to 30-Dec-20	28-Jan-21 to 9-March-21
Dumper-625 (CAT)	1-Dec-20 to 1-Jan-21	26-Jan-21 to 9-March-21
Dumper-657 (CAT)	1-Dec-20 to 28th-Dec-20	28-Jan-21 to 8-March-21
Dumper-658 (CAT)	1-Dec-20 to 30-Dec-20	30-Jan-21 to 7-March-21
Dozer-982 (CAT)	15-Dec-20 to 02-Jan-21	6-Feb-21 to 9-March-21

**Basis of Evaluation:**

To qualify the diesel saving with the usage of THERMOL-D, as per following methods:

**Calculation of Specific fuel Consumption & Performance Evaluation:**

$$SFC = \frac{\text{Total Diesel Consumption}}{\text{Total Running Hours}}$$

The Saving (%) will be calculated as per the given formula:-

$$\text{Saving \%} = \frac{SFC_{Pre} - SFC_{Post}}{SFC_{Pre}} \times 100$$

Where,

SFC<sub>Pre</sub> - Specific Fuel Consumption Without Thermol-D

SFC<sub>Post</sub> - Specific Fuel Consumption With Thermol-D

**Effect of Thermol-D on Key Parameters:**

- ❖ Reduction in Specific Fuel Consumption(SFC)

**Data Collection**

- THERMOL-D added in the ratio of 1:2000 on v/v basis.
- The same set of parameters has recorded during the Pre and post- Trial.
- HMR data were taken from the individual equipment's on daily basis.
- All the Data were authenticated by the section engineer.

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- All the Data were authenticated by the section engineer.
- Enclosed:  
Annexure I – Pre & Post trial report

**Comparison Report:** Specific Fuel consumption (Liter per hour) comparison is given below:

**Reference:**

PO no. MCL/GM(HA)/MMW/X/I-144/18-19/9050230131094

Dated: 29/08/2019

<b>SUMMARY OF THERMOL-D TRIAL REPORT Summary, HINGULA OCP</b>						
<b>Equipment</b>	<b>Trial Base</b>	<b>Trial Duration</b>	<b>Running Hour</b>	<b>HSD Cons.</b>	<b>Liter per hour</b>	<b>Average Saving (%)</b>
SURFACE MINER-25	Without Thermol-D	02-Nov-19 to 10-Nov-19	84.87	8681	102.286	<b>12.85%</b>
	With Thermol-D	16-Nov-19 to 18-Dec-19	364.27	32472	89.143	
DOZER-11910	Without Thermol-D	14-Nov-19 to 28-Nov-19	160.48	8600	53.589	<b>4.90%</b>
	With Thermol-D	29-Nov-19 to 30-Dec-19	303.92	15488	50.961	
<b>Total Average Saving (%)</b>						<b>8.88%</b>

**Cost Benefit Analysis:**

Cost Benefit Analysis (CBA)						
Particulars	Unit	Dumper-623 (CAT)	Dumper-625 (CAT)	Dumper-657 (CAT)	Dumper-658 (CAT)	Dozer-982 (CAT)
Average Specific Fuel Cons. Without Thermo-D	Ltr/Hr	30.65	39.72	33.44	31.11	65.91
Average Specific Fuel Cons. With Thermo-D	Ltr/Hr	28.17	35.68	30.81	28.84	62.54
Saving in Fuel Consumption	Ltr/Hr	2.49	4.03	2.63	2.27	3.37
Hours operated with addition of Thermo-D	Hour	200.20	265.70	159.10	151.40	225.20
Total HSD Saving	Liter	497.57	1071.97	418.18	343.37	758.52
Cost of HSD saved (@Rs 81.795/- Liter)	Rs	40698.35	87681.66	34204.62	28085.82	62043.39
Total Fuel consumption with Thermo-D	liter	5639.00	9481.00	4902.00	4367.00	14084.00
Total Thermo-D added (1:2000 v/v)	liter	2.8195	4.7405	2.451	2.1835	7.042
Cost of Thermo-D (Rs 1600/- per liter)	Rs	4511.2	7584.8	3921.6	3493.60	11267.20
<b>Total Saving (in Rs)</b>	<b>Rs</b>	<b>36187.15</b>	<b>80096.86</b>	<b>30283.02</b>	<b>24592.22</b>	<b>50776.19</b>
<b>Total saving / Operating Hour</b>	<b>Rs/Hour</b>	<b>180.75</b>	<b>301.46</b>	<b>190.34</b>	<b>162.43</b>	<b>225.47</b>

**For, MAHANADI COALFIELDS LTD.**

1. Mr. Swagat Swain - Dy. Manager (Excv)
2. Mr. Sarthak Patnayak - Dy. Manager (Excv)
3. Mr. Suresh Sahoo - Sr. Manager (Excv)
4. Mr. D. Surya Saradhi - Depot Officer (HSD) Lingraj OCP
5. Mr. R. R. Nayak - Project Engineer (Excv) Lingraj OCP

**For, ABHITECH ENERGYCON LTD.**

1. Mr. Paritosh Majee - Executive Technical
2. Mr. Swapan Majee - Executive Technical
3. Mr. Durgvijay Bharti - Manager Technical



20/06/21  
Engineer I/c. (Excv)  
Lingraj OCP