

Date 2 June 2017

To,
The Director, IA-I (T)
Ministry of Environment, Forest and Climate Change
Indira Paryavaran Bhawan, Jorbagh Road, New Delhi – 110003

Subject: Point no. 5.5.3 (i) to (v) of Minutes of Meeting of EAC on 26th April 2017 and Additional Details Sought (ADS) dated 15/05/2017 on MoEFCC website in Proposal No. IA/KA/THE/27676/2015 and File No. J-13012/12/2015-I.A. I (T) of M/s Udupi Power Corporation Limited.

Dear Sir,

With respect to the Point no. 5.5.3 (i) to (v) of Minutes of Meeting of EAC on 26th April 2017, enclosed please find the following Additional Details as desired:

- 5.5.3 (i) Certificate from DCF is enclosed.
- 5.5.3 (ii) Details of court cases pending in different courts in the format of undertaking is enclosed.
- 5.5.3 (iii) MoU with supplier of Imported Coal is enclosed.
- 5.5.3 (iv) Scientific explanation by NEERI is enclosed.
- 5.5.3 (v) Copy of MoUs with Cement Companies' for Flyash offtake is enclosed. The same was already provided in EIA Report - Annexure 11 and Annexure 29.

We hope this will suffice the requirement as desired for ADS.

Thanking You,

Authorised Signatory

Udupi Power Corporation Limited



(Santosh Kumar Singh)

VP – Environment



ದೂರವಾಣಿ/Phone: (O) :08254-230349

(Fax) : 08254 -232720

E-mail: kpurforest@yahoo.com

ಸ್ಥಳ: ಕುಂದಾಪುರ - 576201

Karnataka Forest Department

Place: Kundapura - 576201

Office of the Deputy Conservator of Forests, Kundapura Division, Kundapura- 576201

No.DMN/CR.59/UPCL/2016-17

Dated: 27-05-2017.

To,

M/s Udupi Power Corporation Limited,
Yelluru Village, Pilar Post,
Padubidri,
Udupi - 574113

Dear Sir,

Sub : MoM of Expert Appraisal Committee (EAC), MoEF&CC dated 26.04.2017 for status certificate from DCF Kundapura regarding Deemed Forest in the village Santhuru, Udupi.

Ref : 1) Minutes of Meeting of the Expert Appraisal Committee (EAC), MoEF&CC dated: 26-04-2017.
2) Govt of Karnataka Order No. CI 366 SPI 2010, Bengaluru dated: 03-03-2016.
3) Your letter No. DMN/CR.59/UPCL/2016-17 dated: 17-02-2017.

This is with reference to your letter dated 20.05.2017 and point no 5.5.3 (i) of Minutes of Meeting dated 26.04.2017 of the Expert Appraisal Committee (EAC), MoEF&CC.

It is noted that Government of Karnataka vide GO No. CI 366 dated 03-03-2016, has permitted acquisition of 278 acres of additional land in village Santhuru excluding SC/ST lands, Grant and Government Lands, through KIADB for proposed project.

As per records of this office till date, this is to clarify the status that no forest land, including the deemed forest land, is being diverted by Forest Department in favour of M/s UPCL for the purpose of proposed expansion of power plant at Village Yelluru and Santhuru.

Yours faithfully,

(M.V. Amarnath)

Deputy Conservator of Forests,
Kundapura Division, Kundapura.



सत्यमेव जयते

INDIA NON JUDICIAL Government of Karnataka

e-Stamp

Certificate No.	: IN-KA41614438730667P
Certificate Issued Date	: 29-May-2017 03:17 PM
Account Reference	: NONACC (FI)/ kaksfcl08/ GANDHINAGAR/ KA-BA
Unique Doc. Reference	: SUBIN-KAKAKSFCL0831859100510476P
Purchased by	: UDUPI POWER CORPORATION LIMITED
Description of Document	: Article 12 Bond
Description	: UNDERTAKING
Consideration Price (Rs.)	: 0 (Zero)
First Party	: UDUPI POWER CORPORATION LIMITED
Second Party	: NA
Stamp Duty Paid By	: UDUPI POWER CORPORATION LIMITED
Stamp Duty Amount(Rs.)	: 100 (One Hundred only)



.....Please write or type below this line.....

UNDERTAKING

I, Amit Mittal S/o. Anil Mithal, General Manager – Business Development and Authorized Signatory for Udupi Power Corporation Limited (A subsidiary of Adani Power Limited), submit this undertaking on behalf of Udupi Power Corporation Limited, that-

[Signature]



Statutory Alert:

1. The authenticity of this Stamp Certificate should be verified at "www.shcilestamp.com". Any discrepancy in the details on this Certificate and as available on the website renders it invalid.
2. The onus of checking the legitimacy is on the users of the certificate.
3. In case of any discrepancy please inform the Competent Authority.

- Udupi Power Corporation Limited has established 2x600 MW Thermal Power Plant at Yellur Village, Udupi District, Karnataka.
- Udupi Power Corporation Limited has proposed for expansion by adding 2x800 MW Thermal Power Plant at Yellur Village, Udupi District, Karnataka.
- There are following four ongoing environmental cases related to the existing 2x600 MW Thermal Power Plant pending before the Hon'ble National Green Tribunal, Southern Zone, Chennai:
 - i. Application No. 26/2013 (WP 21439/2005 filed by Janajagrithi Samithi, Nandikur, represented by Mr. Balakrishna Shetty before the Hon'ble High Court of Karnataka, transferred to National Green Tribunal),
 - ii. Application No. 27/2013 (WP 2180/2007 filed by CSI Saint Luke's Church & Others (total 2 churches) before the Hon'ble High Court of Karnataka, transferred to National Green Tribunal),
 - iii. Application No. 28/2013 (WP 11095/2007 filed by Bellibettu Alade Devasthanam, Yelluru and Others (total 9 temples) before the Hon'ble High Court of Karnataka, transferred to National Green Tribunal) and
 - iv. Appeal No. 51/2012 (WP 22933/2012 filed by Janajagrithi Samithi, Nandikur, represented by Mr. Balakrishna Shetty before the Hon'ble High Court of Karnataka, transferred to National Green Tribunal).
- That the respondents in all four cases are the Union of India, Ministry of Environment & Forests and Udupi Power Corporation Limited and others.
- That all these matters are clubbed together and sub-judice before the National Green Tribunal, Southern Zone, Chennai. Written statements are duly filed by all parties including Respondent-1 (MoEF&CC) and final hearing of all parties on admissibility and merits are under progress.
- That Udupi Power Corporation Limited will abide by the final outcome in all four cases.
- Apart from above the following cases are also pending before various courts, brief details of same are as under :-
 - i. Arbitration Suits No. 40 to 43/2011 filed by Udupi Power Corporation Limited, challenging the four Awards of the Arbitral Tribunal, against Simplex Infrastructures Limited and others pending before the City Civil Court (CCH 40) at Bangalore.
 - ii. Arbitration Suits No. 45 to 48/2011 filed by Simplex Infrastructures Limited, challenging the four Awards of the Arbitral Tribunal, against Udupi Power Corporation Limited and others pending before the Hon'ble City Civil Court (CCH 40) at Bangalore.
 - iii. Criminal Case No. 1712/2011 filed by the State of Karnataka against Shri P Panduranga Rao, Occupier and Director of Udupi Power Corporation Limited and

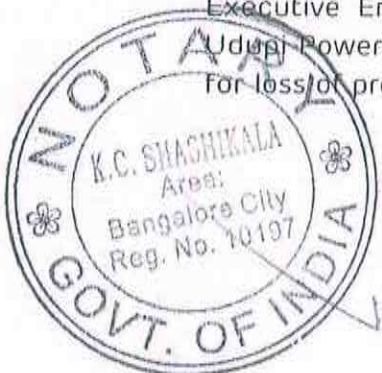


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another for the offence under section 92 of the Factories Act, 1948, pending before the Hon'ble 2nd ACJ & JMFC at Udupi and this matter has been stayed by the Hon'ble High Court of Karnataka at Bangalore.

- iv. Criminal Petition No. 5671/2011 filed by P Panduranga Rao, Director of Udupi Power Corporation Limited and another against the State of Karnataka praying to quash the criminal proceedings in C.C.No. 1712/2011, pending before the Hon'ble High Court of Karnataka at Bangalore.
- v. MWA CR 06/2016 filed by Labour Inspector Udupi against the Managing Director of Udupi Power Corporation Limited and another, seeking the relief of deposit of overtime wages at double the rate to security persons for working beyond 8 hours per day, pending before the Hon'ble Assistant Labour Commissioner at Mangaluru.
- vi. Appeal Nos. 01/2012 and 05/2012 filed by Janajagrithi Samiti and others against the Karnataka State Pollution Control Board and Udupi Power Corporation Limited challenging the Consent for Operation dated 09.12.2011 issued under both Air Act and Water and these appeals are disposed of by the Hon'ble Karnataka State Appellate Authority at Bangalore on 21.04.2017. However, the detailed order is yet to be released.
- vii. Appeal Nos. 50/2012 and 51/2012 filed by Janajagrithi Samiti and others against the Karnataka State Pollution Control Board and Udupi Power Corporation Limited challenging the Consent for Operation dated 30.06.2012 issued under both Air Act and Water and these appeals are disposed of by the Hon'ble Karnataka State Appellate Authority at Bangalore on 21.04.2017. However, the detailed order is yet to be released.
- viii. Civil Appeal No. 2230/2013 pending before Supreme Court is filed by Udupi Power Corporation Limited against Janajagrithi Samiti and others challenging the Order of National Green Tribunal dated 11.01.2013 in Appeal No.56/2012 thereby restoring the case nos. 01/2012 and 05/2012 decided by Karnataka State Appellate Authority Bangalore On 17/08/2012.
- ix. EN 12 PPC 2013 filed by Smt. Vidya Dinker against the Public Information Officer, Energy Department and Udupi Power Corporation Limited for not providing the information and certain documents sought under the Right to Information Act, pending before the Hon'ble First Appellate Authority, Department of Energy, Government of Karnataka at Bangalore.
- x. Misc. Case No. 18/2013 filed by Smt. Baby Moolyadi against the Assistant Executive Engineer, Karnataka Power Transmission Corporation Limited and Udupi Power Corporation Limited seeking the relief of enhanced compensation for loss of properties, buildings, improvements etc., for establishment of 400 KV



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transmission line between UPCL site to Shantigram, Hassan by KPTCL, pending before the Hon'ble Principal District and Sessions Judge at Udupi.

- xi. HRC No. 5306/2011 filed by Shri. Shashidhar Shetty, former President of Yelluru Gram Panchayath against Karnataka State Pollution Control Board and others, alleging that Udupi Power Corporation Limited's Power Plant is polluting the locality thereby violating their Human Rights, pending before the Hon'ble Karnataka State Human Rights Commission at Bangalore.
- xii. HRC No. 3422/2012 filed by Shri. Chardrashekhar Peethran and others against Secretary, Commerce and Industries, Government of Karnataka and others, alleging that Udupi Power Corporation Limited is not paying the compensation of Rs.2 lakhs per family to 302 fishermen families as directed by the Hon'ble Chief Minister of Karnataka on 23.02.2010, pending before the Hon'ble Karnataka State Human Rights Commission at Bangalore.
- xiii. Appeal No. C/21705/2014-DB filed by Udupi Power Corporation Limited against the Commissioner of Customs, Mangalore praying to set aside Order in Original No. 11/2013-Commr dated 29.11.2013 passed by the Commissioner of Customs, Mangalore, pending before the Hon'ble Customs, Excise and Service Tax Appellate Tribunal at Bangalore.
- xiv. Appeal No. C/20589/2014-DB filed by Udupi Power Corporation Limited against the Commissioner of Customs, Mangalore praying to set aside Order No. 02/2013-Commr dated 25.10.2013 passed by the Commissioner of Customs, Mangalore, pending before the Hon'ble Customs, Excise and Service Tax Appellate Tribunal at Bangalore.
- xv. Appeal No. C/25032/2013-SM filed by Udupi Power Corporation Limited against the Commissioner of Customs, Mangalore praying to set aside Order in Appeal No. 160/2012/Cus (B) dated 28.09.2012 passed by the Customs and Central Exercise (Appeals), Bangalore, pending before the Hon'ble Customs, Excise and Service Tax Appellate Tribunal at Bangalore.
- xvi. W.P. No. 2282/2014 filed by Lanco Power Limited and Udupi Power Corporation Limited against Central Electricity Regulatory Commission challenging CERC Tariff Regulation for the period of 2014-19, pending before the Hon'ble High Court of New Delhi.
- xvii. W.P. No. 18321/2014 a Suo Moto writ petition registered by the Hon'ble High Court of Karnataka at Bangalore in the larger interest of the workers working in Coal Fired Thermal Power Plants as per the Judgement of Hon'ble Supreme Court of India dated 31.01.2014 passed in WP (Civil) No.79/2005 and Udupi Power Corporation Limited is also a party to this petition.
- xviii. Review Petition No. RP/19/2015 filed by Power Company of Karnataka Limited against Central Electricity Regulatory Commission and others praying to review



Signature



the order dated 15.05.2015 passed in Appeal No.108/2014, pending before the Hon'ble Appellate Tribunal for Electricity at New Delhi.

- xix. Review Petition No. RP/22/2015 filed by Udupi Power Corporation Limited against Central Electricity Regulatory Commission and others praying to review the order dated 15.05.2015 passed in Appeal No.108/2014, pending before the Hon'ble Appellate Tribunal for Electricity at New Delhi.
- xx. Civil Appeal Nos. 13846 to 13848/2015 filed by Udupi Power Corporation Limited against Power Company of Karnataka Limited and others challenging the APTEL's order dated 15.05.2015 in Appeal Nos. 108/2014, 122/2014 and 119/2014, pending before the Hon'ble Supreme Court of India.
- xxi. Civil Appeal Nos. 13833 to 13834/2015 filed by Power Company of Karnataka Limited against Central Electricity Regulatory Commission and others challenging the APTEL's order dated 15.05.2015 in Appeal Nos. 108/2014 and 18/2013, pending before the Hon'ble Supreme Court of India.
- xxii. Civil Appeal No. 8571/2015 filed by Janajagrithi Samiti against Central Electricity Regulatory Commission and others challenging the APTEL's order dated 15.05.2015 in Appeal No. 122/2014, pending before the Hon'ble Supreme Court of India.
- xxiii. Petition No. 242/MP/2016 filed by Udupi Power Corporation Limited against Power Grid Corporation of India Limited and others challenging the wrong and unjustified Bill raised by PGCIL towards PoC charges for the month of October, 2016, pending before the Hon'ble Central Electricity Regulatory Commission at New Delhi.
- xxiv. Petition No. 60/RP/2016 filed by Power Company of Karnataka Limited against Southern Regional Load Despatch Center and others praying to review the Order dated 30.06.2016 passed by the Hon'ble CERC in Petition No.10/SM/2014, pending before the Hon'ble Central Electricity Regulatory Commission at New Delhi.
- xxv. Appeal No. C/21839/2016 filed by Udupi Power Corporation Limited against the Commissioner of Customs, Mangalore praying to set aside Order in Appeal No. 582/2016 dated 10.10.2016 passed by the Commissioner of Customs (Appeals), Bangalore, pending before the Hon'ble Customs, Excise and Service Tax Appellate Tribunal at Bangalore.
- xxvi. O.S. NO. 119/2016 filed by Konkan Railway Corporation Limited against Udupi Power Corporation Limited and Lanco Infratech Limited seeking the relief of recovery of money in a sum of Rs. 14,82,35,100/- (Rupees Fourteen Crores Eighty Two Lakhs Thirty Five Thousand and One Hundred only) together with future interest at the rate of 18% per annum from the date of filing of this suit i.e.,



[Handwritten Signature]



30/11/2016 until repayment of the outstanding amount, pending before the Hon'ble Principal Senior Civil Judge at Udupi.

- xxvii. MWA CR No. 15/2016 filed by the Labour Inspector, Udupi against Udupi Power Corporation Limited and UNIQ Detective & Security Services Pvt. Ltd., pending before the Authority under Minimum Wages Act/Assistant Labour Commissioner, Mangalore, seeking the relief of payment of overtime wages at double the rate to security persons for working on four weekly off days in a month for a period of six months.
- xxviii. W.P. No. 48010/2014 filed by P. Radhakrishna Shenoy against the Special Deputy Commissioner, KIADB, Bangalore and others claiming the enhanced compensation for acquiring his lands measuring 1.66 acres in Sy. No. 184/3 of Tenka village for UPCL project, pending before the Hon'ble High Court of Karnataka at Bangalore.

Submitted to the Ministry of Environment, Forest & Climate Change on this 29th day of May, 2017.

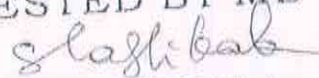
Place: Bengaluru

Date: 29.05.2017


(Amit Mittal)



ATTESTED BY ME



K.C. SHASHIKALA

ADVOCATE & NOTARY

GOVT. OF INDIA

Reg. No. 10197

3441, Service Road, R.P.C. Layout
Vijayanagar, Bangalore - 560 040

29 MAY 2017

**Memorandum of Understanding
(MoU)**

Between

**ADANI GLOBAL PTE LTD
80, RAFFLES PLACE,
#33-20, UOB PLAZA II,
SINGAPORE - 048624
(Supplier)**

And

**UDUPI POWER CORPORATION LIMITED
NO.34, 1ST FLOOR, LOTUS TOWERS,
DEVARAJA URS ROAD, RACE COURSE
BANGALORE, KARNATAKA STATE 560001
(Purchaser)**

**REFERENCE: AGPTE/UPCL/MOU/001
Date: 16.01.2017**



This Memorandum of Understanding (herein referred to as "MOU") is made on this 16th day of January, 2017 by and between

Adani Global Pte Ltd, a company incorporated under the laws of Singapore, having its registered office address at its registered office address at 80, RAFFLES PLACE, #33-20, UOB PLAZA II, SINGAPORE - 048624 (hereinafter referred to as the "Supplier" or the "Supplier" which expression shall unless repugnant to the context or meaning thereof shall mean and include its successors and permitted assigns) of the First Part.

And

UDUPI POWER CORPORATION LIMITED, having its registered office address at NO.34, 1ST FLOOR, LOTUS TOWERS, DEVARAJA URS ROAD, RACE COURSE BANGALORE, KARNATAKA STATE 560001 (hereinafter referred to as the "Purchaser" or the "Purchaser", which expression shall unless repugnant to the context or meaning thereof shall mean and include its successors and permitted assigns) of the Other Part.

WHEREAS the Purchaser has proposed expansion of their existing Udupi Power Plant (1200 MW) located in state of Karnataka by 1600 MW for onward supply to Karnataka Discoms and the Purchaser requires regular supply of Coal.

AND WHEREAS the Supplier has represented to the Purchaser that it can supply the requisite amount of Standard Coal from mines in Indonesia / Australia or any other country for MOU Period (as defined hereinafter) subject to terms and conditions contained in this MOU.

NOW THEREFORE the Parties agree to and this MOU witnesses as follows:

ARTICLE 1: DEFINITIONS AND INTERPRETATIONS

1.1 Definitions:

In this MOU the following words and / or phrases shall have the following meanings, unless the context requires otherwise:

1. "Annual Delivery Schedule" shall mean the schedule for delivery of Standard Coal for each MOU Year divided into four quarters and shall be provided 30 days before the start of such MOU Year.
2. "MOU year" shall mean the period of 12 months commencing from 1st April and ending on 31st March.
3. "Business Day" shall mean a day other than Public Holiday;
4. "CIF" shall mean "Cost, Insurance and Freight" shall have the meaning set forth in INCOTERMS-2010;
5. "Coal Storage Area" means the storage area at the Port of Discharge on Indian Coast.
6. "MOU Period" means the period commencing from 1st April 2017 or from the date of fulfillment of condition precedents as stipulated in clause 2.1



whichever is later and expiring on 31st March 2020 or such extended period as may be agreed to mutually between the Parties hereto;

7. **"Quantity"** shall mean the Firm Quantity and such other additional quantities of Standard Coal as required by the Purchaser and agreed in writing by the Supplier; or such extended period as may be agreed to mutually between the Parties hereto
8. **"Delivered Price"** shall have the meaning ascribed to it in Article 10.1 hereof;
9. **"Delivery Point"** shall mean the earmarked Coal Storage Area at the Port of Discharge.
10. **"Draft Surveys"** shall mean the marine draft survey carried out by a Licensed Surveyor to determine the quantity of coal loaded on a vessel.;
11. **"Firm Quantity"** shall have the meaning ascribed to it in Article 4.2 hereof;
12. **"Force Majeure"** shall have the meaning ascribed to it in Article 12 hereof
13. **"INCOTERMS - 2010"** means the 2010 edition of the International Rules for the Interpretation of Trade Terms published by the International Chamber of Commerce;
14. **"Independent Laboratory"** shall be an internationally recognized, reputable, capable and accredited test facility which expression shall, unless it be repugnant to the subject or context thereof, mean and include its successors and assigns appointed in accordance with Article 3.1.1.
15. **"Licensed Marine Surveyor"** shall mean the person licensed by the government of any country from where the Standard Coal would be sourced to undertake Draft Surveys;
16. **"Loading Port"** shall mean the port of shipment specified by the Supplier in the Nomination Notice;
17. **"Month"** shall mean the calendar month of a calendar year.
18. **"Nomination Notice"** shall mean the notice issued by the Supplier in terms of Article 5.4 hereof;
19. **"Port of Discharge"** means port of New Mangalore Port or any other port as nominated by the Purchaser from time to time;
20. **"Party"** means either the Purchaser, or the Supplier and **"Parties"** means the Purchaser and, the Supplier;
21. **"Public Holiday"** means Sunday or any other day declared as a holiday on which the Banks remain closed;
22. **"Sample"** means a sample of Standard Coal of not less than 2000 gram which is forwarded to the Parties for testing and analysis;



23. "Standard Coal" shall mean non-coking thermal coal meeting the Specifications that is substantially free from impurities, including bone, slate, earth, rock, pyrite or wood;
24. "Supplier's Sample" shall mean the sample of Standard Coal of not less than 2000 gram which is forwarded by the Supplier for testing and analysis;
25. "Tonne" shall mean Metric Tonnes at 1000 Kilograms;
26. "AGPTE" shall mean the supplier Adani Global Pte Ltd (AGPTE)
27. "UPCL" shall mean the purchaser Udupi Power Corporation Ltd (UPCL).
28. "GoK" shall mean the Government of Karnataka (GoK).
29. "PKCL" shall mean the Power Company of Karnataka Limited (PKCL).

Interpretation In this MOU, unless the context otherwise requires:

- a) headings are inserted for convenience only and shall not affect the construction or interpretation of this MOU;
- b) references to Articles, Articles and Schedules are references to Articles and Articles and Schedules to this MOU, as amended from time to time;
- c) references to any law or act of parliament or any regulation made pursuant to any act of Parliament or to any other directive shall mean such law, act, regulation or directive as from time to time amended, re-enacted or consolidated and including any provision enacted or consolidated and including any provision enacted in substitution therefore;
- d) references to a day shall mean a day of the week, including a Saturday or Sunday and to a working day shall mean any day other than a Public Holiday

ARTICLE 2: COMMENCEMENT AND DURATION

This MOU shall come into force on the 1st April, 2017 or from the date of fulfillment of condition precedents as stipulated in clause 2.1 whichever is later and shall remain in force and effect till the expiry of the final commercial contract signed by the Parties OR until 31st March 2020 in case of final commercial contract is not signed due to any reasons or non-fulfillment of condition precedents as stipulated in clause 2.1.

2.1 Condition Precedents: This MOU shall come into force on fulfillment of all the below mentioned conditions.

- (a) Upon execution and Commencement of Power Purchase Agreement (PPA) between Purchaser and Govt. of Karnataka; and
- (b) Upon successful qualification of Supplier as a "L1" bidder in the tender floated by Govt. of Karnataka towards supply of Coal to fulfillment the power supply obligation under the PPA signed between the Purchaser and Govt. of Karnataka as per clause 2.1.(a).



ARTICLE 3: SAMPLING AND ANALYSIS

3.1 Independent Laboratory

3.1.1 Appointment

Not later than Fifteen (15) days prior to the Delivery Date, the Supplier shall, at its cost and expense, appoint the Independent Laboratory to conduct analysis of Standard Coal, subject to consent of the Purchaser, which shall not be unreasonably withheld by the Purchaser. Coal samples for the shipment shall be taken and analyzed using ISO/ASTM standards and procedures, whichever applicable.

3.1.2 Drawing of Samples

Load Port: The Supplier shall cause the Independent Laboratory to draw a representative sample of the Standard Coal immediately prior to loading of Standard Coal. The Analysis of sample so taken by the Independent Laboratory at Load port will be taken for billing as per Article 10.2. The analysis of sample so taken will be delivered to the Purchaser in accordance with the provision set out in Article 3.1.4. Each sample so taken by the Independent Laboratory shall be divided into two parts. The first part (the "Purchasers Sample") shall be analysed by the Independent Laboratory in accordance with the provisions of Article 3.1.5; the second part (the "Referee Sample") shall be kept in a sealed container and stored by the Independent Laboratory.

Discharge Port: The Purchaser shall cause the Independent Laboratory to take a representative sample of the Standard Coal immediately after or during unloading of Standard Coal.

3.1.3 Referee Sample

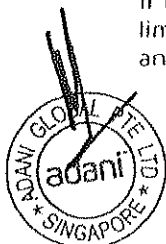
The Purchaser shall cause the Independent Laboratory to deposit the Referee Sample in a sealed container and to maintain custody thereof for a period of not less than 40 Days. Each Referee Sample shall not be less than four (4) kilograms.

3.1.4 Certificate of Sampling and Analysis

The Independent Laboratory shall prepare the Certificate of Sampling and Analysis based on its analysis of the Shipment Sample and shall cause the Certificate to be reported to the Purchaser and Supplier, along with all other shipping data ("Shipping Report") by fax, telephone (to be confirmed promptly by fax) electronic means and courier, but in any event within (7) seven business days after the completion of the loading of each Shipment.

3.1.5 Dispute of Analysis

If the Discharge port analysis report is within ISO/ASTM inter lab tolerance limit (as mentioned in table below) with Load port analysis, the load port analysis shall be considered for the payment.



Parameter	Interlab Tolerance (ISO)	Interlab Tolerance (ASTM)
GCV (ARB)	72 Kcal/kg	56 Kcal/kg
TM (ARB)	-	-
Ash (ADB)	0.3%	0.5%
Sulphur (ADB)	0.1%	0.1%

In case of discharge port analysis results vary from load port analysis by more than the ISO/ASTM inter lab tolerance range, then the discharge port results shall be taken for payment.

a) Call for Test of Referee Sample

Either Party may call for the test of the Referee Sample incase either of the parties object to the Independent Analysis Report and may request the Independent Laboratory to promptly analyze the Referee Sample and to promptly deliver the results thereof to the Parties.

b) Analysis of Referee Sample

If the Referee Sample analysis report is within ISO/ASTM inter lab tolerance limit (**as mentioned in table above**) with Load Port Sample analysis, then the Load Port sample analysis shall be considered final and binding for the payment.

In case of Referee Sample analysis results vary from Load Port Sample analysis by more than the ISO/ASTM inter lab tolerance range, then the Referee Sample analysis results shall be considered final and binding for the payment.

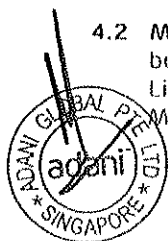
c) Costs of Tests of Sample

All costs, expenses and fees associated with the testing of the Referee Sample shall be for the account of the party who is challenging the results of the analysis.

ARTICLE 4: COMMODITY AND QUANTITIES

4.1 Commodity: Non Coking coal in bulk of Indonesian/Australian/any other country of Origin or Indonesian/Australian/any other country of Origin Steam coal in bulk or Steam (non coking) coal of Indonesian/Australian/any other country of Origin in Bulk or Indonesia/Australia/any other country of Origin Steam Coal in bulk.

4.2 MOU Quantity: Supplier shall sell to the Purchaser and the Purchaser shall buy from the Supplier up to 9.0 Million Metric Tonnes +/- 10 % (Tolerance Limit) of Standard Coal in each MOU Year (the "Firm Quantity") during the MOU Period.



ARTICLE 5: SCHEDULING

5.1 Transportation and Delivery

The Supplier shall transport and deliver MOU Quantity of Standard Coal to the Purchaser in accordance with the provisions of this MOU.

5.2 MOU Period Schedule

The process for determining the schedules for delivery of MOU Quantity of Standard Coal during MOU year shall be as follows:

a) Quarterly and Monthly Quantities

The process for each month during a MOU Year shall be as follows:

1. Not less than Fifteen (15) days before the start of each month during a MOU Year, the Purchaser shall provide the Supplier with its expected requirements for Standard Coal for that month, together with expected requirements for succeeding two months Quantities of the MOU Year and the dates on which such deliveries are required to be delivered at the Port of Discharge for the following month.
2. Within five (5) days of receipt of such notice from the Purchaser, the Supplier shall provide the Purchaser with a provisional Delivery Schedule, showing the Shipment schedule for such quantities for the following month.
3. Within five (5) days of receipt of such Delivery Schedule, the Purchaser shall notify the Supplier of changes (if any) to the proposed Delivery Schedule.
4. Within five (5) days thereafter the Purchaser shall submit a final Delivery Schedule which shall be firm and, in accordance with and subject to the terms of this MOU, binding on the parties.

5.3 Variations

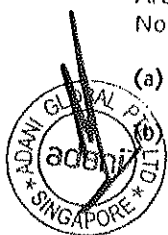
If the Purchaser anticipates that it will be prevented or restricted from receiving any vessel at the Port of Discharge or from accepting or otherwise receiving shipments the Purchaser shall give the Supplier a written request of 15 (fifteen) days to vary any of the schedules referred to in this Article 5, and the Supplier shall revise any of the Schedule to address the concerns of the Purchaser.

5.4 Nomination Notice

After the finalization of each Delivery Schedule in accordance with this Article 5, the Supplier shall, immediately, provide to the Purchaser a Nomination Notice which shall, without limitation, specify the following:

(a) The name, the year built and flag of the vessel;

(b) The Loading Port;



- (c) The Expected Time of Arrival (ETA) at the Port of Loading/Discharge;
- (d) The quantity of Standard Coal to be discharged; and
- (e) Demurrage/Despatch rate

5.6 Permissible Variation

The actual quantity of Standard Coal to be loaded onto the vessel at the Loading Port may vary from the amounts notified by the Supplier to the Purchaser in the Nomination to the extent of 10% (Ten percent) provided that Supplier shall supply such quarterly quantities as specified by the Purchaser in terms of Article 5.2 (a).

ARTICLE 6: PROPERTY AND RISK

The title and risk of the Standard Coal shall pass on to the Purchaser from the Supplier when the Standard Coal is delivered by the Supplier at the Port of Loading. However incase the Standard Coal is rejected by the Purchaser in view of the Standard Coal not meeting the quality parameters or any other reasons as stipulated in this MOU the Purchaser shall be absolved of the title and risk in the Standard Coal and the same shall immediately revert back to the Supplier on the date of such rejection.

ARTICLE 7: IMPORT DOCUMENTATIONS

The Purchaser shall obtain at its own risk and cost all import documentation or other official authorization and carry out all customs formalities necessary for the Purchaser to import the Quantity of Standard Coal into India at the Port of Discharge. The Supplier shall deliver all requisite documents expeditiously for the Purchaser to provide such documents to coal handling service provider to clear the MOU Quantity of Standard Coal for the import and clearance of the MOU Quantity of Standard Coal at the Port.

ARTICLE 8: QUALITY

8.1 Specification

The MOU Quantity of Standard Coal to be sold by the Supplier to the Purchaser under this MOU shall conform to the Specification as contained in Schedule 1 hereto, shall be trimmed and shall be free as is practicably possible of foreign matter (including, without limitation, wood, Bones, boulders, iron, non-ferrous materials, or other foreign materials from whatever source).

ARTICLE 9: MEASUREMENT / TESTING

9.1. Weighment

The Purchaser undertakes in relation to each shipment that:

- a) At its expense the Licensed Marine Surveyor shall determine by a Draft Survey at the Port of Loading the weight of each shipment. The weight shall be determined at the Port of loading by means of a survey of the vessel's draft before and after discharge; and



- b) The Licensed Marine Surveyor shall issue a Certificate of Weight for each shipment up on the completion of discharge of the vessel.
- c) The weight shown in the Certificate of Weight of port of loading for such shipment shall be final and binding and relate only to the MOU Quantity of Standard Coal supplied by the Supplier to the Purchaser.

ARTICLE 10: PRICE

The commercial terms shall be finalized at the time of contract finalization, subject to

- 1) fulfillment of condition precedent as per clause 2.1
- 2) and approval by the principal buyer i.e. Power Company of Karnataka Limited (Govt. of Karnataka).

ARTICLE 11: BILLING AND PAYMENT

11.1 Delivery of documents viz a viz Invoice, Load port documents, shipping document and other related documents

Copies of the following documents shall be submitted by the Supplier to purchaser before arrival of vessel.

- i) Set of 3/3 Clean on Board Ocean Bill Of Lading (s) marked "Freight Payable as per charter party" issued "to order" and endorsed in favour of Purchaser and/or the bank.
- ii) One original and three copies of Supplier's Commercial Invoice for the entire quantity with price adjustments, if any based on the load port certificate of sampling and analysis by an independent inspection agency.
- iii) Two copies of Certificate of Origin issued by designated /relevant authority stating that the Origin Country of the goods.
- iv) Two copies each of Certificate of Sampling & Analysis, certificate of weight Issued by independent inspection agency.
- v) Charter party Bill of Lading and third party documents acceptable except for invoice and draft.
- vi) Supplier to fax full set of documents to Purchaser within 10 working days from the date of shipment.
- vii) Insurance certificate duly endorsed in favour of the Purchaser or/and the bank will be provided by the Supplier for the payment

11.2 Payment: Payment shall be made by LC or DA up to 360th Day from the date of bill of Lading. In case the payment is not made within 360 days from the bill of lading the purchaser will have to bear and pay penal interest @7% for the delayed period.



ARTICLE 12: FORCE MAJEURE

12.1 Force Majeure

Neither Party shall be liable to the other Party for any failure or delay in making, receiving and accepting shipments or otherwise performing the terms and provisions or conditions of this MOU if such performance is hindered or prevented, by the circumstances listed in Article 12.2, but only if and to the extent that:

- a) such circumstance, despite the exercise of reasonable diligence, cannot be or be caused to be prevented, avoided or removed by such Party;
- b) such event materially adversely affects the ability of the Party to perform its obligations under this MOU and such Party has taken all reasonable precautions, due care and reasonable alternative measures in order to avoid the effect of such event on its ability to perform its obligations under this MOU and to mitigate the consequences thereof; and
- c) such event is not the direct or indirect result of the failure of such Party to perform any of its obligations under this MOU

For the purpose of this Article "Affected Party" shall mean the Supplier and/or the Purchaser whose performance under this MOU has been affected by an event of Force Majeure.

12.2 Events of Force Majeure

The events of Force Majeure shall include:

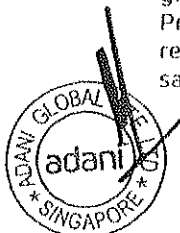
i) Natural Force Majeure Events:

act of God, including, but not limited to lightning, drought, fire and explosion (to the extent originating from a source external to the Site), earthquake, volcanic eruption, landslide, flood, cyclone, typhoon, tornado, or exceptionally adverse weather conditions which are in excess of the statistical measures basis historical data.

ii) Non-Natural Force Majeure Events:

1. Direct Non - Natural Force Majeure Events

- a) Nationalization or compulsory acquisition by " any Indian Governmental Instrumentality of any material assets or rights of the Purchaser ; or
- b) The unlawful, unreasonable or discriminatory revocation of, or refusal to renew, or any unlawful, unreasonable or, discriminatory refusal to grant any other consent required for the operation of the Project. Provided that an appropriate court of law declares the revocation or refusal to be unlawful, unreasonable and discriminatory and strikes the same down.



- c) Any other unlawful, unreasonable or discriminatory action on the part of an Indian Government Instrumentality which is directed against the operation of the project, Provided that an appropriate court of law declares the revocation or refusal to be unlawful, unreasonable and discriminatory and strikes the same down.
- d) Any strike or labour disturbance (except in connection with any lockouts) affecting the Designated Mines, the Loading Port, Shipment in high seas or the Port of Discharge; or any delay in or failure to perform of any subcontractor or agent of the Supplier.

2. Indirect Non - Natural Force Majeure Events

- a) Any act of war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy, blockade, embargo, revolution, riot, insurrection, terrorist or military action; or
- b) Radio active contamination or ionizing radiation originating from a source in India or at the site of coal mines resulting from another Indirect Non Natural Force Majeure Event excluding circumstances where the source or cause of contamination or radiation is brought or has been brought into or near the site by the affected party or those employed or engaged by the affected party.
- c) Industry wide strikes and labor disturbances having a nationwide impact in India

12.3 Notification of Force Majeure event

Relief under this Article 12 shall not be given unless the Party intending to claim relief has, by notice to the other Party within fifteen (15) days of becoming aware of an event of Force Majeure or if later, within Fifteen (15) days of an event of Force Majeure having an effect upon the performance of such Party's obligations under this MOU, informed the other Party that it desires to claim relief under this Article 12.

12.4 Contents of notice

Such notice referred to in Article 12.4 above shall include such relevant information as is available, including without limitation a description of the event and the date of its occurrence, the effect of such event upon the performance of such Party's obligations, the expected duration of such event of Force Majeure and its effects and the actions it is taking in order to comply with this Article 12.

12.5 Outstanding Obligations

In the event that due to circumstances covered by the provisions of this Article 12, the Quantity of Standard Coal have not been delivered as per the MOU Period Schedule referred to in Article 5.2, then the Supplier and the Purchaser shall examine together which steps, if any, shall be taken to fulfill any outstanding shipments, and the terms and conditions to apply thereto, on the principle that such shipments shall be made up as soon as reasonably practicable at the Purchaser's option. In the event of failure to supply MOU Quantity of Standard Coal by the Supplier other than on



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account of Force Majeure events specified in Article 12, till such time that the MOU Quantity of Standard Coal is supplied from an alternative source the Supplier shall be liable to pay the Purchaser liquidated damages.

12.6 Mitigation

As soon as practicable after the occurrence of an event of Force Majeure, the Party affected shall:

- a) use its best endeavors to prevent and reduce to a minimum and mitigate the effects of the event of Force Majeure, including where appropriate and without limitation by having recourse to alternate acceptable sources of services, equipment and materials;
- b) resolve the said Force Majeure as rapidly as is reasonable and practicable; and
- c) use its best endeavors to perform its obligations to the maximum extent practicable.

Relief under this Article 12 shall cease to be available to a Party if it fails to use such best endeavors.

Should performance of any obligation hereunder be delayed or prevented due to an event of Force Majeure for a period of more than Ninety days (90) days then the Parties may take steps to amicably settle the non-performance of any obligation arising out of Force Majeure within a period of one month from the expiry of such Ninety (90) days. If no settlement is arrived within the aforesaid period of one (1) month or such extended period which shall not exceed two (2) months from the expiry of ninety 90 days, the Parties may refer such dispute to Arbitration more particularly stated under Article 22 of this MOU.

12.7 Extension

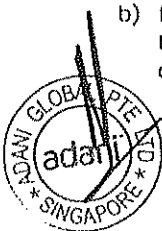
The MOU Period may, at the mutual option, be extended by any period of time during which obligations are suspended due to an event of Force Majeure.

ARTICLE 13: TERMINATION

13.1 Events of Default

Except for Force Majeure Events as stipulated in Article 12 hereinabove the occurrence of the following shall constitute an Event of Default under this MOU:

- a) any breach by the Supplier of any of its material obligations under this MOU made pursuant hereto including, without limitation;
- b) failure by the Supplier to deliver Standard Coal in a quantity at least equal to 90% of the aggregate quantity requested by the Purchaser in any two consecutive shipments or any three shipments in any MOU Year; or



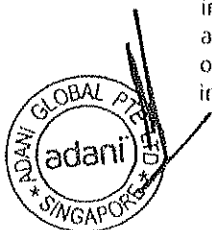
- c) failure by the Supplier to deliver MOU Quantity of Standard Coal conforming to the Specification for any two consecutive shipments or for more than 33% of the shipments in any MOU Year; or
- d) breach in any material respect of the representations and warranties made by the Supplier;
- e) any failure to make payment of invoice by the Purchaser (except any disputed portion of the invoice) or breach in any material respect of the warranties made by the Purchaser;
- f) either Party becoming insolvent under any applicable law or making a composition or arrangement with its creditor or putting a proposal to its creditors for a voluntary arrangement for a composition of its debts or a scheme of arrangement or on the presentation of a petition that either Party be put into liquidation or administration or on the passing by either Party of a resolution putting the other Party into voluntary liquidation (other than for the purposes of amalgamation or reconstruction) or on the appointment of an administrator, a provisional liquidator, a receiver, manager or an administrative receiver or on the occurrence of an event which would result in the crystallization of any floating charge over the business undertaking, property or assets or any part thereof of either Party, or on the dissolution of either Party; or
- g) either Party ceasing or threatening to cease to carry on business; or
- h) any distress, execution or other process being issued, levied or enforced upon the business, undertaking, property or assets or any Part thereof of either Party; or
- i) a petition being presented or a meeting being convened for the purpose of considering a resolution for the making of an administration order, the winding-up, bankruptcy, or dissolution of either Party; or

13.2 Notice

On the occurrence and during the continuance of an Event of Default the non-defaulting Party shall, if it wishes to terminate this MOU, give thirty (30) days' written notice to the defaulting Party specifying the Event of Default and if the Event of Default is capable of remedy such notice shall require it to be remedied within thirty days of the date of the notice. If the Event of Default is not capable of remedy or, where the Event of Default is capable of remedy but is not remedied within the cure period, the non-defaulting may terminate on giving not less than thirty working days' notice.

13.3 Termination on Expiry

The termination or earlier expiry of this MOU for whatever cause shall not affect any provision of this MOU which is expressed to survive or operate in the event of termination or expiry of this MOU and shall not prejudice or affect the rights of either Party against the other in respect of any breach of this MOU or in respect of any amount payable by one Party to the other in relation to any period prior to termination or expiry.



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ARTICLE 14: REPRESENTATION, WARRANTIES AND COVENANTS

14.1 General Representations, Warranties and Covenants

a) Each Party hereby represents and warrants to the other Party as follows:

- (i) that it is a company, validly existing and in good standing under the laws of its place of incorporation and is qualified to do business and is in good standing in all other places where necessary in light of the business and properties it conducts and owns;
- (ii) the execution, delivery and performance of this MOU has been duly authorized by all necessary corporate action;
- (iii) this MOU constitutes a legal, valid and binding obligation of such Party, enforceable against such Party in accordance with its terms except to the extent that its enforceability may be limited by bankruptcy, insolvency, moratorium or other similar laws affecting the rights of creditors generally and by general principles of equity; and
- (iv) the execution, delivery and performance of this MOU will not conflict with, result in the breach of, constitute a default under any of the terms of the Memorandum and Articles of Association of such Party or of any applicable laws or any covenant, MOU, understanding, decree or order to which such Party is a party or by which such Party or any of its properties or assets is bound or affected.
- (v) Each Party grants to the other (including its agents) in addition to the rights of the Parties pursuant to this MOU, the right to visit such Party's facilities from time to time, upon reasonable notice and subject to the applicable rules and regulations of the facilities, to witness operations related to this MOU.
- (vi) The Supplier covenants with the Purchaser that it will assist the Purchaser to obtain during the term of this MOU and renew and maintain all permits, licenses including import licenses and official authorizations and approvals required under the applicable laws as required for the import of Standard Coal into India/The Supplier shall promptly notify the Purchaser of any actual loss, revocation, termination, amendment or breach of any such permit, license or approval or any actual breach of any applicable laws related to performance of this MOU.
- (vii) The Supplier shall take all action required under applicable laws in connection with the Suppliers operations and activities under this MOU, including without limitation compliance with any reporting or notice requirements under applicable laws relating to environmental matters. The Supplier further undertakes to supply the MOU Quantity of Standard Coal on a firm basis for the quantity as agreed under this MOU which is sufficient to run the Plant.

ARTICLE 15: INDEMNITY

The Supplier hereby undertakes to the Purchaser except in so far as the Supplier's performance is prevented by any event of Force Majeure within Article 12 above that at all times the Supplier will duly perform, observe the terms and conditions



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of this MOU and that the Supplier will indemnify and keep indemnified the Purchaser in respect of any losses, costs and expenses sustained by the Purchaser through the default of the Supplier with respect to any of its obligations under this MOU. The Supplier's obligation to indemnify shall survive the termination of this MOU.

ARTICLE 16: ASSIGNMENT

The provisions of this MOU shall be binding on and ensure to the benefit of the successors and assigns of each Party hereto provided that Parties may assign, transfer, charge or otherwise dispose of or subcontract any of its rights or obligations hereunder with the prior written consent of the other Party.

ARTICLE 17: STEVEDORE DAMAGES

The Stevedores at discharge port are to be appointed by the Purchaser at their risk and expense. The Stevedores shall be considered as the Purchaser servants and the Purchaser are to be responsible for any negligence, default or error in judgment of the Stevedores and/or the barges/lighters employed in discharging the vessel.

Discharging is to be done under supervision of Master. Master has right to stop discharging if in his opinion it is found unsafe that may cause damage to the vessel. All delays due to this stoppage of work to be on Purchasers' account.

Should Master suspect any damage caused to vessel by barges and/or due to stevedores, Master to immediately notify in writing to stevedores/ Purchaser/ Purchaser agent by fax/ cable or telex within 24 hours of its occurrence. Purchaser or their agents have the right to inspect any reported damage with their own surveyor. Master has right to report the hidden damages upon discovery whether at sea or at discharge port. Purchaser are solely responsible for such damage and same to be repaired at Purchaser time and cost prior to Vessel sailing from load port except for hidden damages which to be repaired at Purchaser cost and time at place and time requested by the owners.

ARTICLE 18: INSURANCE

The Supplier shall cover at its own cost marine insurance for 110% of the CIF value of the cargo including Institute Cargo Article and also covering all risk including loading/Unloading; War, SRCC etc from Load port to Discharge port and Thence to any Interior place in India under ICC(A). The insurance shall be in accordance with the provisions of a standard marine Insurance Policy with claims payable in India.

ARTICLE 19: SHIPPING TERMS:

Demurrage/ Dispatch: Customary Quick Dispatch, No Demurrage and No Dispatch

ARTICLE 20: WAIVER

Any failure of either Party to insist on any or more instances upon strict performance of any provision of the MOU or to exercise any of his rights herein, shall not be considered as a waiver of any such provision.



ARTICLE 21: GOVERNING LAW

This MOU shall be governed by the substantive Laws of Singapore.

ARTICLE 22: DISPUTE SETTLEMENT AND ARBITRATION

Any dispute, difference or disMOU between the parties arising under or in relation to this MOU, including (but not limited to) any dispute, difference as to the meaning of the terms of this MOU or any failure to agree on any matter required to be agreed upon under this MOU shall, if possible, be resolved by negotiation and mutual MOU by the parties within 30 days. If no settlement is arrived at within thirty (30) days of intimation of existence of a dispute by a Party to another, either Party may refer the dispute to Arbitration to be conducted by a sole Arbitrator to be appointed under the rules of Singapore International Arbitration Centre ("SIAC"). Arbitration proceedings will be governed by the Rules of SIAC, which Rules are deemed to be incorporated by reference into this Article. The seat or legal place of arbitration shall be Singapore. The language to be used in the arbitration shall be English.

ARTICLE 23: NOTICE

Any notice under the MOU, shall be considered to have been duly served, if sent by registered post or hand delivered against acknowledgement:

For ADANI GLOBAL PTE LTD
80, RAFFLES PLACE,
#33-20, UOB PLAZA II,
SINGAPORE – 048624
Tel: 65-62252070
Fax: 65-62252537

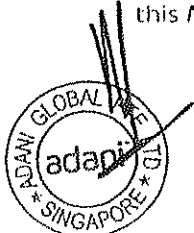
Att. Mr. Manoj Nair
Email: Manoj.Nair@adani.in

And
For UDUPI POWER CORPORATION LIMITED.
NO.34, 1ST FLOOR, LOTUS TOWERS,
DEVARAJA URS ROAD, RACE COURSE
BANGALORE, KARNATAKA STATE 560001
Tel: +91-80-40254025
Fax: +91-80-40254000

Att. Mr. Amit Mittal
Email: Amit.Mittal@adani.com

ARTICLE 24: AMENDMENTS

Any amendments to this MOU shall be in the form of an addendum in writing duly signed by both parties and shall thereafter form and become an integral part of this MOU and must be read along with this MOU.



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ARTICLE 25: ENTIRE MOU

Each Party hereby confirms that this MOU sets out the entire MOU and understanding between the Parties in relation to the transactions hereby contemplated, that it supersedes all previous MOUs, arrangements and understandings between them or any of them with regard to such transactions and that it is not entering into this MOU or any of the arrangements contemplated hereby in reliance upon any representation or warranty not expressly set out herein.

ARTICLE 26: CONFIDENTIALITY

Neither Party shall disclose any information contained in this MOU to a third Party without consent of each other except to Government Authorities as required by the rules of the countries of the Parties concerned or where prior consent has been taken by a Party from the other and in those cases the disclosure must not be made unless prior to such disclosure all reasonable and usual steps in the circumstances are taken to protect against the misuse or unauthorized disclosure of the confidential information by the third Parties, including where appropriate, requiring the relevant third Party to provide a written undertaking of confidentiality.

For the avoidance of doubt, no Party will use the name of the other Party for advertising or promotional purposes without prior written permission, nor are MOU materials to be used in whole or in part outside of each Party's organization without prior written approval of the other Party.

IN WITNESS WHEREOF THE PARTIES HERETO HAVE SUBSCRIBED THEIR RESPECTIVE HANDS THE DAY, HEREIN BELOW WRITTEN:

Purchaser


UDUPI POWER CORPORATION LIMITED


(Authorised Signatory)



Supplier

ADANI GLOBAL PTE LTD


(Authorised Signatory)



SCHEDULE -1

SPECIFICATIONS OF STANDARD COAL

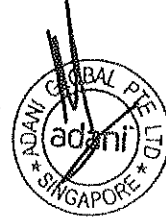
The specification of Proximate Analysis by % weight, unless specified otherwise, on Air Dried Basis (ADB). ARB means on "As Received Basis"

No	SPECIFICATION	UNIT	Typical
1	GCV(ARB)	Kcal/kg	4000 – 5000
2	Total Moisture	% by Wt	17 – 25
3	Ash Content	% by Wt	18 – 25
4	Volatile Matter	% by Wt	20 – 26



SCHEDULE -II SHIPPING TERMS

- a) The vessel chartered by the Supplier to perform this shipment will enter the limits at Discharge Port. At Discharge Port Purchaser guarantees 1 safe Port and 1 safe anchorage. It is the Purchaser's responsibility to ensure smooth discharge at the guaranteed rate at the Port.
- b) Supplier shall advise Purchaser of the estimated time of arrival of vessel at the Port of discharge within one working day after the vessel sails from the load port. Supplier shall also arrange for the discharge port agents to advise Purchaser or Purchaser's agent the estimated time of arrival at the discharging port, 7 days, 3 days, 24 hours prior.
- c) Notice of Readiness (NOR) at Discharge Port shall be tendered on ATDN SHINC basis WIPON, WICCON, WIFPON, WIBON.
- d) All costs incurred for the discharge of the cargo such as barging, stevedoring, inland transportation, facilitation of any sort, etc, would be borne by the Purchaser entirely. All cargo related custom duties, local taxes, port dues, governmental import levies shall be borne by the Purchaser entirely.
- e) At Discharge Port Purchaser shall discharge coal from the vessel at a minimum guaranteed rate of 22,500 MT PWWD.
- f) All expenses related to vessel such as pilotage, Berth Hire charges, agency fees etc to be Supplier's account.



NEERI's Response to the Observations of EAC relating to EIA Study of 2x800 MW Thermal Power Plant Expansion Project of M/s UPCL at Udupi

Background:

MINUTES OF THE 5TH MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) ON ENVIRONMENTAL IMPACT ASSESSMENT (EIA) OF THERMAL POWER PROJECTS

The 5th Meeting of the re-constituted EAC (Thermal Power) was held on 26th April, 2017 in the Ministry of Environment, Forest & Climate Change at Brahmaputra Meeting Hall, Vayu Wing, First Floor, Indira Paryavaran Bhawan, Jorbagh Road, New Delhi under the Chairmanship of Dr. Navin Chandra. The following members were present:

- | | | |
|------------------------------|---|--|
| 1. Dr. Navin Chandra | - | Chairman |
| 2. Dr. Narmada Prasad Shukla | - | Member |
| 3. Shri N. Mohan Karnat | - | Member |
| 4. Dr. Sharachandra Lele | - | Member |
| 5. Shri N. S. Mondal | - | Member (Representative of CEA) |
| 6. Dr. R. K. Giri | - | Member (Representative of IMD) |
| 7. Prof. S.K. Sinha | - | Member (Representative of ISM Dhanbad) |
| 8. Dr. S. Kerketta | - | Member Secretary |

Observations of the Committee

(5.5.2) Committee deliberated the complaint received from Janajagriti Samithi. Committee suggested NEERI to submit the justification regarding the carrying capacity report submitted earlier vis-a-vis impacts due to proposed expansion project. Committee also noted that there are about 36 court cases which are under adjudication at various courts and some of them are related to environmental issues. NEERI had brought out a report in 1996 that due to various ecological sensitive features of the Region, coal based TPP in the Region would be unsustainable even with installation of FGD as per the direction of the Hon'ble Supreme Court in the matter of Maneka Gandhi Vs Mangalore Power Corporation (Cogentrix). However, now NEERI is involved in preparation of EIA Report of this TPP and is recommending that it can come up in the same region. It is found to be inconsistency in the scientific conclusion.

(5.5.3) Committee after deliberations, **deferred** the project for submission of following additional information:

- iv. As mentioned at above para, a logical and scientific explanation is required from the NEERI in support of this project that as to why this project is viable now as earlier NEERI had recommended in their carrying capacity report that due to various ecological sensitive features of the Region, coal based TPP in the Region would be unsustainable even with installation of FGD

NEERI's Response to the Observations of EAC relating to EIA Study of 2x800 MW Thermal Power Plant Expansion Project of M/s UPCL at Udupi

Scientific Explanation regarding point no 5.5.3 (iv) of Minutes of Meeting of EAC dated 26th April 2017:

The Hon'ble Supreme Court in its order dated November 7, 1996 directed NEERI to examine the environmental viability of selected five projects based on the principle of Sustainable Development. The scope included the 1000 MW coal based thermal power plant proposed by M/s Mangalore Power Company (MPC) at Nandikur, Karnataka with M/s Cogentrix (USA) as lead partner.

The EIA conducted by third party consultant engaged by M/s MPC for 1000 MW power project was reviewed by NEERI. Based on the review of the EIA and site visit, NEERI submitted the report titled "Examination of Environmental Viability and Sustainability of Select Projects" to Hon'ble Supreme Court on 6 Dec 1996.

In 2016, as per the TOR requirement for M/s UPCL, NEERI has studied the baseline environmental conditions for one full season within 10 km of UPCL expansion project. As already concluded in EIA report for UPCL, proposed expansion of UPCL power plant may have certain level of marginal impacts on the local environment. However, with the implementation of the proposed pollution control and environment management measures, even the minor impacts anticipated due to construction and operation of the proposed power plant will be mitigated. Further, development of this project will have certain beneficial impacts in terms direct and indirect employment and business opportunities for locals, improving the electrical power supply in the state of Karnataka. Thus, in view of considerable benefits from the project without any significant adverse environmental impacts, the proposed project is considered viable for the region as well as for the nation.

The report titled "Examination of Environmental Viability and Sustainability of Select Projects" submitted by NEERI in 1996 based on the review of the MPC EIA report, highlighted the issues related to mainly following areas:

- *MPC project siting which was found violative of applicable CRZ regulations in 1996.*
- *Insufficient information in EIA for certain environmental impacts and activities by M/s MPC.*
- *Type of Pollution Control Measures including FGD with 70% efficiency resulting into higher predicted SO₂ concentration in the area in light of different standards for ambient air quality in sensitive area in 1996.*
- *Geo-hydrological conditions of the area and interrelation with activities proposed by MPC like use of freshwater from Mulki estuary.*
- *Impact assessment for marine environment and fisheries was not found satisfactory in EIA report for M/s MPC and it was highlighted that pollution problems in the aquatic*

NEERI's Response to the Observations of EAC relating to EIA Study of 2x800 MW Thermal Power Plant Expansion Project of M/s UPCL at Udupi

eco-systems could occur if projected heavy industrialization in the region is not properly planned and managed.

- *It was observed that in the project appraisal process, the affected population and the environmentally aware citizens were not taken into confidence.*

There is no inconsistency in the scientific conclusion by NEERI in 1996 for M/s MPC and in 2016 for M/s UPCL. Main aspects, as mentioned above for M/s MPC, have been considered in the EIA study conducted for the present UPCL project. As desired by EAC, scientific explanation on salient points in report "Examination of Environmental Viability and Sustainability of Select Projects" submitted in 1996 by NEERI vis-a-vis EIA for proposed UPCL expansion by 2x800 MW conducted in 2016 are as under.

3.2.1 The Project:

Observation: *In 1996, MPC proposed to use imported coal with ash content of 17% and Sulphur content <0.82%.*

Response: As per Environmental Clearance for existing 2x600 MW TPP of UPCL, it has been permitted to use imported coal with ash content of 12% and Sulphur content less than 0.8%. Further expansion by 2x800 MW is proposed based on blended coal with 25% of maximum Ash content and 0.5% maximum Sulphur content (Ref: EIA report Sec 2: Project Description).

Observation: *In 1996, MPC site was about 3 km from the sea and 300 meter from the backwaters of Mulki estuary and based on the review of EIA report submitted to NEERI for MPC project, it was observed not complying with CRZ requirements at that time.*

Response: UPCL project is more than 4.5 Km from the Arabian Sea and 5 Km from the Mulki River. Power Plant is outside the CRZ area and only seawater pipeline for the project is crossing the CRZ land which is a permissible activity as per CRZ notification 2011 for such projects. For EIA of the project, CRZ mapping done by NIO, Goa has been considered and included in EIA report. NIO, Goa is one of the authorized agency for CRZ mapping by MoEFCC. Proposed project is found complying with siting guidelines (Ref: EIA report Sec 5.1: Compliance to the project siting guidelines).

After completion of EIA, UPCL has also obtained the recommendation from Karnataka Coastal Zone Management Authority (KCZMA) for CRZ clearance for laying the pipeline in existing land corridor in CRZ. Copy of letter no. FEE 5 CRZ 2017 dated 1 April 2017 of Government of Karnataka regarding Recommendation by KSCZMA for M/s UPCL CRZ application was provided to NEERI by the project proponent and same was included in the presentation before EAC meeting dated 26 April 2017.

NEERI's Response to the Observations of EAC relating to EIA Study of 2x800 MW Thermal Power Plant Expansion Project of M/s UPCL at Udupi

3.2.2 The Region:

Observation: *In 1996 it was reported that geographically the District is wedged between the Western Ghats to the east and the Arabian Sea to the west.*

Response: The above statement stays intact. Further, coordinates of outer boundaries of proposed eco sensitive zone (ESZ) in Western Ghats is now available in draft notification issued by MoEFCC on the subject. Hence, for EIA for proposed expansion of UPCL, nearest distance of proposed ESZ for Western Ghats from the point source emission (stack) has been identified, which is 23 Km away (Ref: EIA report Sec 3.5: Faunal diversity in Study area and Annexure 1 for TOR Compliance).

Observation: *In 1996, it was reported that the weather in the region is hot and humid for most of the year, and the humidity exceeds 85%. The region receives heavy rainfall. Annual average rainfall in a total of 123 rainy days per annum is approximately 4000 mm.*

Response: During EIA for UPCL expansion, this observation is similar. Considering this, it is proposed to do rainwater harvesting and use rainwater for partial makeup in cooling towers during monsoon. Storm water management will be done by installing intercepting drains in the plant area, and led to rainwater collection tanks, which will help in conserving the freshwater. It is estimated that during peak monsoon season about 5% of water requirement can be met by pumping the rainwater to cooling towers. (Ref: EIA report, Sec 4.6: Storm Water Management and Sec 10.3 for Water Pollution Management)

Observation: *In 1996 EIA report for MPC, it was highlighted that the District is well-forested and is characterized by rich diversity of flora and fauna. Five major types of forests exist wherein greater variety of plant and animal species is recorded than in most regions of the Western Ghats. The District has two wildlife sanctuaries, and a part of the Kudremukh National Park.*

Response: During EIA studies for UPCL expansion, this aspect is also studied by NEERI. As per the Working Plan of Coondapur (Kundapur) Forest Division (from 2002-03 to 2012-13), the Udupi range in Kundapur Forest Division is having 1069.35 ha under Reserve Forest and 92.8 ha under Protected Forest. Only Pilarkhan Reserve Forest (RF) of Udupi Range of Kundapur Forest Division falls in the 10 km study area from the proposed project. Due to the presence of various villages and habitated roads and areas, Pilarkhan RF is disconnected from other RFs and PFs on Northern and Western boundary of Kundapur Forest Division, that is touching the Western Ghats. Total 31 locations were identified for study of the ecology and biodiversity in 10 km radius which included Pilarkhan RF. (Ref: EIA Report, Section 3.2.5 on Flora and Fauna)

NEERI's Response to the Observations of EAC relating to EIA Study of 2x800 MW Thermal Power Plant Expansion Project of M/s UPCL at Udupi

Besides, project proponent has also provided additional study on wildlife and conservation plan conducted by Dr. Bharat Jethva, a senior wildlife ecologist and Category-A, accredited (MoEF-QCI-Government of India) expert of Ecology and Biodiversity.

Scope of the study covered identification of wild life species falling under Schedule - 1 of Wild life Protection Act 1972 and preparation of site specific conservation plan if any Schedule-1 species habitat or visit within 10 Km area of the proposed project is observed. Besides the primary data collection based on observation in the area, authenticated list of Flora and Fauna in 10 Km radius area was also obtained from Range Forest Officer (RFO) of the area.

Based on the study done by Dr. Jethva, site specific wild life conservation plan including activity wise funds proposal has been prepared in consultation with Divisional Conservator of Forest (DCF). Recommendations of this study include plantation of mangroves especially on the banks of Mulki estuary, support to forest department for rescue and rehabilitation of scheduled species, if encountered in the area. Total fund of Rs. 195 Lakh has been proposed separately for wildlife conservation in the report which is submitted by M/s UPCL to Divisional Conservator of Forest (DCF) and DCF has also forwarded the same to CCF with his note that "there is no National Park, Sanctuary, Elephant/Tiger Reserve, Wildlife Corridor within 10 Km radius of the proposed project site". Copy this letter was provided by project proponent to NEERI and the same was included in presentation before EAC on 26th April 2017.

This study report by Dr. Jethva was referred and included in the EIA report by NEERI. (Ref: EIA Report Sec 3.5 on Biological Environment and Sec 7 regarding Additional Study for Site Specific Wildlife Management Plan).

Project proponent has also obtained the letter from Divisional Conservator of Forest (DCF) which clarifies that there is no eco sensitive zone within 10 Km radius of the project and the same was produced by NEERI during presentation before EAC on 26th April 2017.

Observation: In 1996, this was reported that the geology of the region is dominated by granitic gneiss these granite rocks have been laterized forming a vast stretch of laterite soil covering major portion of the MPC project site area. The threat to ground Water contamination is very high due to the existing geological formation and soil conditions. Soil of the region was observed to be dominated by laterite soil with pH in acidic in nature.

Response: Above baseline regarding the soil environment and geological formation of the area is found similar in 2016 also. During EIA for the proposed UPCL expansion, soil

NEERI's Response to the Observations of EAC relating to EIA Study of 2x800 MW Thermal Power Plant Expansion Project of M/s UPCL at Udipi

characteristics were analyzed by collecting 12 soils samples within 10 km area. It is found that soil in the area is acidic in nature with pH range between 4.4 & 7.1 in all the samples. Also, geo-hydrology study of the area is found that major water bearing formation in the study area is laterite followed by weathered granite.

However, apart from localized construction impacts at the plant site during construction, no proposed activity or aspect of the UPCL expansion is found to be interacting and significantly impacting the soil environment or geological formation. Hence, the project activities of the UPCL are not envisaged to alter the soil characteristics of the region. (Ref: EIA report Sec 3.4 and Table 3.4.5 for Chemical Characteristics of Soil).

Considering the acidic nature of the soil in the area, as geology of the region is dominated by granitic gneiss these granite rocks have been lateritized forming a vast stretch of laterite soil, a scientific study covering pre and post monsoon in a year may be considered by M/s UPCL to identify suitable long term measures and practices for soil conditioning for agriculture fields in the area.

Observation: In 1996, MPCL proposed to take cooling water from proposed dam on Mulki river. Based on the EIA report submitted to NEERI for review, it was observed that the most productive part of the estuarine system is the intertidal and adjacent shallow-water zones. It was anticipated that significant pollution problems in the aquatic eco-systems could occur if projected heavy industrialization in the region is not properly planned and managed in respect of ecological protection and pollution prevention and abatement measures.

It was anticipated that different activities in the region for e.g. discharge of the sewage and industrial effluents, inflow of the agriculture chemicals and pesticides through the land run-off may affect the fish productivity.

Response: For UPCL existing TPP as well as for the proposed expansion, the source of water is from Arabian Sea and sweet water requirement will be met by using de-salination plant.

For present EIA of UPCL, marine environment has been studied by NIO, Goa. Marine EIA report has been referred and included in the EIA report by NEERI. **Present seawater parameters are found within normal range of values that are reported from unpolluted coastal areas.**

As per the study, expansion project proposed by UPCL is not envisaged to affect any estuary in the area as there is no water withdrawal or discharge for the project proposed in any estuary/river. Cooling water outfall shall be inside the Arabian Sea and

NEERI's Response to the Observations of EAC relating to EIA Study of 2x800 MW Thermal Power Plant Expansion Project of M/s UPCL at Udupi

the outfall location is proposed by NIO, Goa after Marine EIA study, which will meet norms of sea discharge.

The pipeline in the inter-tidal and sub tidal areas will be buried to a safe depth to avoid interference with fishing operations. Expansion project is proposed with cooling towers and incremental temperature of less than 5 degree C. It is found that marine impacts will be marginal and will be limited to 500 square meters from the outfall point. Monitoring of marine environment will be carried out during construction as well as operation phase (Ref: EIA report Sec 7.1: Marine EIA).

Also, no extraction of ground water is proposed for construction and operation phase. The treated effluent from the plant will conform to CPCB standards. The plant will be operated on zero discharge concepts. Only cooling water blow down and RO reject will be discharged to sea (Ref: EIA report, Table 2.7: Wastewater Generation in Existing and Proposed Plant and Sec 4.4 for Water Balance).

The wastewater will be suitably treated in STP/ETP and will be utilized for ash handling, dust suppression and Horticulture as proposed by M/s UPCL (Ref: EIA Report, Sec 4: Anticipated Environmental Impacts and Mitigation Measures).

Observation: In 1996, EIA report for MPC project submitted to NEERI was found to be not addressing the areas like mode and impact of coal transport, storage at plant site, power evacuation and assessment of impacts due to proposed township of 5000 people.

Response: Environmental aspects and impacts related to these areas have been studied in EIA for UPCL in 2016. (Ref: EIA report Chapter 2 on Project Description and Chapter 4 on Anticipated Environmental Impacts and Mitigation Measures)

Observation: In 1996 based on the review of EIA report of MPC submitted to NEERI, it was observed that the Air quality modeling exercise carried out by the MPC consultants using ISC-2 model indicates that the maximum 98th percentile 24 hourly ambient air concentrations of SO₂ and NOx be 12.6 and 16.2 µg/m³ respectively at the Western Ghats due to the MPC's Thermal Power Plant considering Flue Gas Desulphurization (FGD) unit in operation. The air quality modeling exercise incorporating the existing and the proposed major industrial point sources (only) of Mangalore region (proposed sources include Mangalore Power Company with FGD unit, MRPL-Expansion, JESCO's 1000 MW Thermal Power Plant and JESCO's steel plant) indicates that SO₂ concentration (30.6 µg/m³) will exceed the stipulated standard of CPCB for sensitive areas at the Western Ghats.

NEERI's Response to the Observations of EAC relating to EIA Study of 2x800 MW Thermal Power Plant Expansion Project of M/s UPCL at Udupi

It was observed that the Air quality modelling exercise carried out by the MPC consultants using numerical model, Fluidyn-PANACHE, indicates that the maximum 98th percentile 24 hourly ambient air concentrations of SO₂ and NO_x will be 54.0 and 69.4 µg/m³ respectively due MPC's thermal power plant considering FGD unit in operation. The SO₂ and NO_x concentrations will thus exceed the stipulated Standards of CPCB for residential/rural areas considering the existing and proposed major industrial point sources (only In Mangalore region).

Response: The recommendations of NEERI were based on the National Ambient Air Quality Standards for SO₂ during 1996, which is reproduced below:

Pollutant	Time weighted Average	Concentration in Ambient Air		
		Industrial Area	Residential Rural and other area	Sensitive Area
1	2	3	4	5
Sulphur Dioxide	Annual Average*	80 µg/m ³	60 µg/m ³	15 µg/m ³
(SO ₂)	24 hours**	120 µg/m ³	80 µg/m ³	30 µg/m ³

For the proposed expansion of UPCL, present air environment baseline is detailed in EIA conducted by NEERI vis-à-vis present National Ambient Air Quality Standards revised vide notification in 2009 by MoEFCC and CPCB as following.

Pollutant	Time weighted Average	Concentration in Ambient Air	
		Industrial, Residential, Rural and other area	Ecologically Sensitive Area (Notified by Central Government)
1	2	3	4
Sulphur Dioxide	Annual Average*	50 µg/m ³	20 µg/m ³
(SO ₂)	24 hours**	80 µg/m ³	80 µg/m ³

As per the TOR requirement for UPCL expansion, NEERI has studied the baseline environmental conditions for one full season within 10 km of UPCL expansion project. The 98th percentile values of 24 hourly concentrations of SO₂ ranged from 5-23 µg/m³, whereas the annual average concentrations of SO₂ ranged from 4-8 µg/m³ (Ref: EIA report Table 3.1.6: Ambient Air Quality Status in the study area - Annual average of 104 observations). Hence, it is found that concentration of SO₂ in Ambient Air at present

NEERI's Response to the Observations of EAC relating to EIA Study of 2x800 MW Thermal Power Plant Expansion Project of M/s UPCL at Udipi

is far less than limits as per NAAQS for 24 hourly and Annual Average basis. SO₂ concentration levels are not expected to exceed the limits.

Also, it may be noted that there is a huge difference in the ambient air quality predicted in EIA conducted by third party consultant engaged by M/s MPC in 1996 and the actual ambient air quality (AAQ) found by NEERI at present in the area.

The National Ambient Air Quality Standards, 2009 makes it clear that the standards for Ecologically Sensitive Area shall be applied to such areas notified by Central Government. Although the Western Ghats have not been notified as Ecologically Sensitive Area yet, NEERI has considered the Draft Notification by the MoEFCC regarding the Ecologically Sensitive Area in Western Ghats at the time of EIA. The nearest point of Ecologically Sensitive Area of the Western Ghats as per the Draft Notification is at a distance of 23 km from the point source emission (stack) of the proposed UPCL expansion project.

At present, to meet the emissions standards for coal based TPP notified by MoEFCC in Dec 2015, UPCL have proposed the expansion by 2x800 MW with installation of FGD in both the units to limit SO₂ emission to less than 100 mg/Nm³. In addition, the FGD of the existing two units is also proposed to be augmented to reduce the SO₂ emissions to less than 200 mg/Nm³ from existing units. **As a result of this, it is found that total SO₂ emissions from the plant will come down from the present 147.61 TPD (from 1200 MW) to 40.16 TPD (from 2800 MW in future). Thus, after expansion of UPCL with new pollution control equipment, it is found that there will be net reduction in SO₂ emissions by 107.45 TPD, which is substantial (72%).**

NEERI has used ISCST-3 model for impact prediction for UPCL after expansion. Total SO₂ emission in Tons per Day (TPD) is reducing; however model has found some incremental ground level concentration (GLC) within 10 km radius from point source emission, which is found due to lowering of flue gas temperature after installation of FGD with higher efficiency. The maximum incremental concentration of SO₂ after expansion is predicted to be 7.9 µg/m³ at a distance of 1.77 km from the stack and after 10 km maximum incremental concentration of SO₂ is found to be <0.1 µg/m³.

Hence, based on air modeling it is interpreted that ambient air quality in the area will be well within the NAAQS limits after expansion of the UPCL. Also, project after expansion is not anticipated to exert any significant impact on any receptor beyond 10 km radius of the stack and Eco-Sensitive Area of the Western Ghats as per draft notification which is at a distance of about 23 km from the proposed stack.

(Ref: EIA report sec 4.4 Anticipated Impacts during Operation Phase)

NEERI's Response to the Observations of EAC relating to EIA Study of 2x800 MW Thermal Power Plant Expansion Project of M/s UPCL at Udupi

Observation: It was highlighted that in EIA report of M/s MPC, the hazards, due to the coal storage and handling, boiler and furnace oil storage have not been analysed and the consequent Disaster Management and Emergency Preparedness Plans have not been included in the rapid EIA report prepared by the MPC.

Response: Risk Assessment study for UPCL expansion project has been conducted as per conditions of the TOR. Different scenarios of accident have been studied. Maximum Credible Accident (MCA) analysis encompasses defined techniques to identify the hazards and compute the consequent effects in terms of damage distances due to heat radiation, toxic releases, vapour cloud explosion etc. Damage distances for the accidental release of hazardous materials (LDO/HSD, H₂ cylinder) have been computed. Weather conditions have been selected to accommodate worst case scenarios to get maximum effective distances. DNV based PHAST V.6.51 software has been used to carry out consequence analysis (Ref: UPCL EIA report, Chapter 11 for Risk Assessment).

3.2.4 Environmental Viability of the Project

Observation: Based on the review of EIA report of M/s MPC, it was identified that freshwater intake was proposed from Mulki estuary. Hence, in the report submitted to Hon'ble Supreme Court, it was highlighted by NEERI that "the rich aquatic resources in the Mulki estuary and the impacted coastal regions (Exhibits 6&7) would be impaired by the proposed Jetty/Wharf operations and run-offs from the coal and ash, Storages. This would affect the fisheries potential and thus the livelihood of vulnerable sections of the population in the region".

Response: Expansion project proposed by UPCL is not envisaged to affect any estuary in the area as there is no water withdrawal or discharge for the project is proposed in any estuary/river. Cooling water outfall shall be inside the Arabian Sea. The outfall location is proposed by NIO, Goa based on Marine EIA study which is also included in EIA report.

Expansion project is proposed with cooling towers and incremental temperature of less than 5 degree C. NIO Goa has found that marine impacts will be marginal and will be limited to 500 square meters from the outfall point. Mangroves are observed on the banks of Mulki river near village Hejmady, around 7.5km in South-East from land fall point of sea water pipeline on the coast. However no mangroves are observed in the study region in open coast area. Based on the modelling carried for proposed out fall point, the impact on mangroves will be negligible, as concluded by NIO, Goa. (Ref: Section 13.1 of UPCL Marine EIA Report by NIO, Goa; EIA Report, Section 4 Anticipated Environmental Impacts and Mitigation Measures and Sec 7.1 for Additional Studies – Marine EIA by NIO, Goa)

NEERI's Response to the Observations of EAC relating to EIA Study of 2x800 MW Thermal Power Plant Expansion Project of M/s UPCL at Udupi

Observation: While the MPC has recorded plans to utilize flyash through the establishment of a separate company, India Ash Products Limited, and MoEF has imposed, in the environmental clearance letter, a condition on the MPC to utilize 100% of the flyash by the ninth year provision for landmass has been made for 25 years storage of flyash at the site. The land requirement for flyash ponds has thus been estimated as 581 acres, i.e. 51.7% of the land requirement for the project. Also details such as the proposed location capital investment marketing strategy etc. are not available on the India Ash Products Limited.

Response: Aspect of land requirement proposed by the M/s UPCL was studied in EIA (Ref: EIA report Section 2.4. on Resources Requirement and Table 2.4 for Land Requirement Summary).

Details on this aspect were also presented by the project proponent and NEERI in EAC meeting dated 26th April 2017. The additional land required for the proposed project is 295.65 Ha (730acres) land. CEA guidelines for coastal power plant with MGR and cooling tower are as below:

- 3x660 MW: 785 Acres
- 5x800 MW: 1230 Acres

M/s UPCL has proposed additional 730 acres land requirement for expansion by 2x800 MW. Area proposed for Ash Dyke for expansion proposal is 278 acres (112.5 ha) around the existing Ash Dyke. Out of this area, 91 acres (36.8 ha) is provided for Green Belt around the Ash Dyke. As observed, the area is irregular in shape.

As details submitted by the project proponent to NEERI, about 20% of the area will be used for Bund and Supernatant Collection Lagoon amounting to 55.5 acre (22.5 ha). Thus, the usable area available for ash dyke will be about 131 acres (53.22 ha). The height of the ash dyke proposed is 8 m, including one raising and maintaining at least 1.25 m freeboard above the top level. The dyke will be able to accumulate about 3.6 Million Tons of Ash at final capacity. This will be adequate for disposal of unutilized ash during the first four years and for emergency storage for any exigency during the life of the project. The ash dyke will be progressively filled from one side by creating lagoons and the filled part will be rehabilitated progressively by afforestation.

Observation: In view of higher acidity in soil, that limits the regeneration of vegetation in evergreen rain forests in the Western Ghats warranting urgent protection and rejuvenation, the 24 hourly and annual average ambient air concentration for SO₂ should be limited to 20 and 10 µg/m³ respectively. The MPC's predictions with the existing and proposed major Industrial point

NEERI's Response to the Observations of EAC relating to EIA Study of 2x800 MW Thermal Power Plant Expansion Project of M/s UPCL at Udupi

sources (only in Mangalore region) indicate the following ambient air concentrations at the Western Ghats:

Parameter	Maximum 98th percentile Annual average 24 hourly concentration ($\mu\text{g}/\text{m}^3$)		Annual average Concentration ($\mu\text{g}/\text{m}^3$)	
SO ₂ (with FGD in MPC's thermal power plant)	Fluidyn-PANACHE 26.5	ISC 2 30.6	Fluidyn-PANACHE not carried out	ISC 2 6.7

Response: As already addressed above, For proposed expansion of UPCL, present air environment baseline is detailed in EIA conducted by NEERI vis-à-vis present National Ambient Air Quality Standards revised vide notification in 2009 by MoEFCC and CPCB as following.

Pollutant	Time weighted Average	Concentration in Ambient Air	
		Industrial, Residential, Rural and other area	Ecologically Sensitive Area (Notified by Central Government)
1	2	3	4
Sulphur Dioxide	Annual Average*	50 $\mu\text{g}/\text{m}^3$	20 $\mu\text{g}/\text{m}^3$
(SO ₂)	24 hours**	80 $\mu\text{g}/\text{m}^3$	80 $\mu\text{g}/\text{m}^3$

As per the TOR requirement for UPCL expansion, NEERI has studied the baseline environmental conditions for one full season within 10 km of UPCL expansion project. The 98th percentile values of 24 hourly concentrations of SO₂ ranged from 5-23 $\mu\text{g}/\text{m}^3$, whereas the annual average concentrations of SO₂ ranged from 4-8 $\mu\text{g}/\text{m}^3$ (Ref: EIA report Table 3.1.6: Ambient Air Quality Status in the study area - Annual average of 104 observations).

Hence, it is found that concentration of SO₂ in Ambient Air at present is far less than limits as per NAAQS for 24 hourly and Annual Average basis. Also, it may be noted that there is a huge difference in the ambient air quality predicted in EIA conducted by third party consultant engaged by M/s MPC in 1996 and the actual ambient air quality (AAQ) found by NEERI at present in the area.

Observation: Based on the details found in EIA report of M/s MPC, it was highlighted that “the coal and ash storages have high potential of Contamination of ground water”.

Observation: Sovereign rights of residents of Dakshin Kannada district, in which project is proposed to be located, were not honoured in the appraisal process. In the project appraisal process, the affected population and the environmentally aware citizens were not taken into confidence.

Public Hearing is conducted by Karnataka State Pollution Control Board as per TOR condition. NEERI was also present in the public hearing and it is noted that over 1500 participants have officially recorded the attendance in Public Hearing. Besides, a large number of written representations were received from people from outside the study area who have plausible stake in the project. After considering the issues received in Public Hearing and Consultation, final EIA report is prepared by NEERI with compliance status to TOR conditions (**Ref: EIA Report, Sec 7.6: Public Consultation / Public Hearing. Volume 3 of the EIA Report on Public Hearing Proceedings, Written Representations and Project Proponent Response**)

In addition to the above, process and technological changes that have taken place in power generation as well as emission control in last 2 decades are highlighted here.

Presently, expansion of UPCL is proposed with more advanced Ultra Supercritical (SC) technology having better efficiency and less emissions per kWh of power generation. Steam parameters at turbine inlet for Supercritical are 270bar (a), 600/600°C to achieve turbine heat

NEERI's Response to the Observations of EAC relating to EIA Study of 2x800 MW Thermal Power Plant Expansion Project of M/s UPCL at Udupi

rate of ~1800 kCal/kWh with turbine driven boiler feed pumps. Unlike before year 2000, now-a-days, most of the turbine suppliers can supply turbines to achieve above parameters and heat rate. Gains in efficiency also results in the environmental benefits i.e. reduced specific coal consumption, hence lower amount of CO₂, NO_x, SO₂ and PM emissions per kWh of power generated.

Pollution control measures are proposed for expansion of UPCL to meet new standards for emission from thermal power plant as per MoEFCC Notification in Dec 2015 for further reduction in emissions. For control of SO₂ emissions, it is proposed to install FGD system with SO₂ removal efficiency more than 95%. (Ref: EIA Report, Sec 2.6 and 5.1 regarding Technology). It may be noted that FGD efficiency proposed by M/s MPC in 1996 was only 70%.

M/s UPCL has also proposed its plan for 100% flyash utilization in time bound manner (Ref: EIA Report Sec 10.2.4.3 regarding Use of Fly Ash and Gypsum). M/s UPCL has provided the MoUs with various cement manufacturing and RMC units which was referred during EIA study for expansion of UPCL (Ref: EIA Report Annexure 11 for List of all MoUs for Flyash Utilization and Annexure 29 for Copies of all MoUs for Flyash Utilization).

In order to ensure day to day off-take of flyash from the UPCL and to avoid storage of flyash in ash ponds in case of emergency and no off-take by users on certain days, it may be recommended to study the feasibility of a Cement Grinding unit of 1 to 2 MTPA within or in proximity of the UPCL power plant, which will provide flexibility in flyash utilization from the thermal power plant.

Overall Summary

NEERI understands that there is no inconsistency in the scientific conclusion drawn by NEERI based on Review of EIA report of 1000 MW project for M/s MPC in 1996 and conclusion drawn based on the EIA conducted by NEERI in 2016 as per TOR conditions for the expansion by addition of 2x800 MW TPP by M/s UPCL.

The 1000 MW TPP proposed by M/s MPC in 1996 was found environmentally not sustainable based on the observations as summarized above, whereas, UPCL expansion project is found environmentally sustainable as per detailed responses mentioned above.

Further, application of technological advancements taken place in last two decades with stricter compliance to emission norms makes the present proposal environmentally viable.


(Dr. S.K. Goyal)

EIA Coordinator – UPCL Expansion Project

Sr. Principal Scientist & Head

CSIR-NEERI, Delhi Zonal Centre, New Delhi 110028

FLY ASH AGREEMENTS

Annexure-11

SI No.	Customer	Utilization through	Contract Quantity
Cement Plants			
1	Ash Tech India Pvt Ltd	Agreement	2500MT/day
2	Magma Ash Tech, Mangalore	Agreement	2000MT/day
3	Sun Power Cement, Palakkad	Agreement	400MT/day
4	Invicrete India Pvt Ltd,	Agreement	1000MT/day
5	Malabar Cements Ltd, Walayar & Cherthala	Sale order	6000 MT
6	Hamara Periyar Cement Pvt Limited	Sale order	4200 MT
7	Ultratech Cement Limited	Sale order	600 MT
8	Hemavathi Cement Industries	Sale Order	12000 MT
Traders, RMC & projects			
1	Vintech India Corporation	Sale order	300MT/day
2	Vijay Agency	Sale order	3000 MT
3	Mior Slag	Sale order	300 MT/day
4	Geomix Concrete	Sale order	2400 MT
5	Duratech Concrete & Products	Sale order	2400 MT
6	Reena Engineers & Contractors Pvt Ltd	Sale order	1800 MT
7	Neptune Readymix Concrete Pvt. Ltd.	Sale order	1200 MT
8	L&T Limited, Construction	Sale order	5000 MT
10	Prism Cement Ltd., Mangalore	Sale order	250 MT
11	Prism Cement Ltd., Mysore	Sale order	2000 MT
12	Prism Cement Ltd., Bangalore	Sale order	6000 MT
13	Prism Cement Ltd., Ernakulam	Sale order	200 MT
Brick & Block Manufacturers			
1	Coelho Constructions	Permission Letter	3000 MT
2	Arya Building Solutions	Permission Letter	3000 MT
3	Srinidhi Blocks, Nandikur	Permission Letter	1500 MT
4	Ganesh Industries	Permission Letter	2400 MT
5	Sai Ram Brick Industries	Permission Letter	1800 MT
6	Vishwas Industries	Permission Letter	900 MT

MEMORANDUM OF UNDERSTANDING (MOU) FOR UTILISATION OF DRY FLY ASH

THIS MOU is entered on this 20th day of October, 2016 between **Udupi Power Corporation Limited**, a Company registered under the Companies Act, 1956, and having its registered office at 1st floor, Lotus Towers, No: 34, Devaraja Urs Road, Race Course, Bengaluru-560 001, Karnataka, India (hereinafter referred to as "UPCL", which expression shall, unless excluded by or repugnant to the context or meaning thereof, be deemed to include its successors and assigns) being the party of the **FIRST PART**.

AND

M/s. Ashtech (India) Private Limited, a company incorporated under Companies Act, 1956, having its registered office at "Ashtech House", 30 Popatwadi, Princess Street, Mumbai - 400 002, Maharashtra, India (hereinafter referred to as "AIPL" which expression shall, unless excluded by or repugnant to the context or meaning thereof, be deemed to include its successors and assigns) being the party of the **SECOND PART**.

Both UPCL and AIPL may hereinafter also be referred to jointly as the '**Parties**' and severally as a '**Party**'

WHEREAS

UPCL is in process to set up 2 x 800 MW (Phase - II) coal based Thermal Power Project, in Yellur village, Udupi Taluk & District, Karnataka (hereinafter referred to as "TPP") and shall be generating in process, substantial quantity of Fly Ash (hereinafter referred to as "dry fly ash") & bottom ash and wishes to utilise the dry fly ash as partial replacement to cement for manufacturing PPC Grade Cement and for the purpose of manufacturing ash based products such as Ready mix concrete (RMC), Block, Tiles, Bricks etc.

AIPL, a company based in Mumbai, Maharashtra, India, engaged in processing, distribution & export of fly ash, had approached UPCL to use such dry fly ash as raw material for the purpose of manufacturing PPC cement, supply to other traders & cement plants and export to overseas destinations.

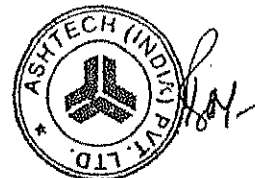
The parties hereto have decided to enter into an MOU on the following terms and conditions:

NOW, THEREFORE, IN CONSIDERATION OF THE ABOVE PREMISES AND OF THE UNDERTAKINGS HEREIN FURNISHED, IT IS HEREBY AGREED BY AND BETWEEN THE PARTIES AS FOLLOWS:

- 1.0 UPCL will make available dry fly ash to be generated from its TPP to AIPL to the tune of 2500 tonnes per day from the commercial date of operation for the purpose of manufacturing PPC cement, supply to other traders & cement plants and export to overseas destinations.
- 2.0 UPCL will make arrangements for dry collection of fly ash and pneumatic system for loading the same in bulkers to be deployed by AIPL.
- 3.0 AIPL shall lift dry fly ash in loose form from UPCL's Silo(s) at the TPP from the date of commercial operation as detailed herein for the purpose of manufacturing of PPC cement, supply to other traders & cement plants and export to overseas destinations.
- 4.0 AIPL shall implement all safety measures in respect of its transportation equipment and manpower engaged for loading and transportation of fly ash within the TPP.
- 5.0 UPCL & AIPL shall strictly adhere to all Pollution Control norms, measures and rules as may be prescribed from time to time by the competent authority in this regard to avoid pollution while loading & transportation of fly ash within the premises of the TPP.
- 6.0 UPCL & AIPL shall discuss the further steps to be taken in order to carry out the purpose of this MoU. Both the parties will endeavour to finalize and enter into such requisite Agreements, as may be necessary in line with the related rules, regulation and notifications of State/Central Government Department/Agencies.

EFFECTIVE DATE, COMMENCEMENT DATE & VALIDITY OF THE MOU

- 1.0 The effective date shall be the date of this MOU.



2.0 The Commencement date shall be the date of commissioning of the TPP by UPCL.

3.0 This MOU shall remain valid till the time a definitive detailed agreement incorporating all the commercials, scope, penalty and legal related matters is executed between the parties.

FORCE MAJEURE

1.0 "Force Majeure" shall mean any event beyond the reasonable control of any party and which is unavoidable notwithstanding the reasonable care of the party affected, and shall include, without limitation, the following:

- a) War, hostilities or warlike operations (whether a state of war be declared or not), invasion, act of foreign enemy and civil war.
- b) Earthquake, volcanic activity, fire, flood or inundation, tidal wave, typhoon or cyclone, hurricane, storm, lightning, or nuclear or other natural disaster or any government policy / regulation / restriction.
- c) UPCL could not set up TPP by whatsoever may be the reason.

2.0 If any Party is prevented, hindered or delayed from or in performing any of its obligations under this MoU by an event of force majeure, then it shall notify the other party in writing of the occurrence of such event and the circumstances thereof within seven (7) days of the occurrence of such event.

3.0 The party who has given such notice shall be excused from the performance of its obligations under this MoU for so long as the relevant event of force majeure continues and to the extent that such party's performance is prevented, hindered or delayed by such force majeure.

4.0 The party affected by the event of force majeure shall use reasonable efforts to mitigate the effect thereof upon its or their performance of this MoU and to fulfil its or their obligations under this MoU.

5.0 Delay or non-performance by either party hereto caused by the occurrence of any event of force majeure shall not:

- a) Constitute a default or breach of this MoU
- b) Give rise to any claim for damages or additional cost or expense occasioned thereby.

TERMINATION

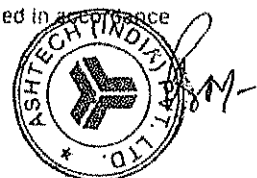
1.0 Any party may terminate this MoU by giving thirty (30) days' notice to the other party during the tenure of this MoU. However, either party shall continue to discharge their respective duties / obligations under the MoU during the notice period. Upon such termination, no party shall be liable to the other party except fulfilling obligations during notice period and in respect of any breach which may have occurred prior to such termination of this MoU or during the notice period.

SETTLEMENT OF DISPUTES

1.0 In case of any disputes, differences, claims between the parties hereto arising out of this MoU, the same shall be referred to the senior management of each Party for an amicable settlement.

2.0 In case no amicable solution is arrived at within a period of 30 days of such reference to the senior management, then the dispute will be referred to arbitration by a single arbitrator to be appointed by the mutual written consent of the Parties. In case the parties fail to appoint the sole arbitrator within 30 days from the notice of commencement of arbitration by any party, each Party shall appoint one arbitrator and the two arbitrators shall appoint the third arbitrator who shall act as the presiding arbitrator.

3.0 The venue of arbitration shall be Mumbai. The arbitration shall be conducted in accordance



with the Arbitration and Conciliation Act, 1996. The language of arbitration shall be English. The award of the arbitrator(s) shall be final and binding.

The cost of arbitration shall be equally shared by both the parties or otherwise decided in the award passed in arbitration proceedings.


OTHER CONDITIONS:

- 1.0 This MoU shall be binding on the Parties and any amendment to this MoU in order to be valid shall be in writing.
- 2.0 This MoU shall be executed in duplicate and both the counterparts shall be treated as original.

IN WITNESS WHEREOF THE PARTIES HERETO HAVE HEREUNTO SET THEIR RESPECTIVE HANDS AND SEALS THE DAY, MONTH AND YEAR FIRST ABOVE WRITTEN.

For Udupi Power Corporation Limited


Signed and delivered by the

Signature: 

Name: Upendra Vemang



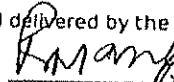
Witness:

Signature: 

Name: Hemanth Kumar

For Ashtech (India) Private Limited


Signed and delivered by the

Signature: 

Name: Raman



Witness:

Signature: 

Name: Pankaj

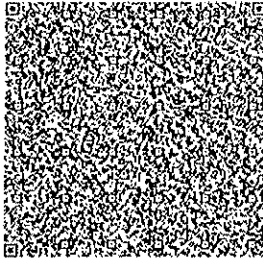
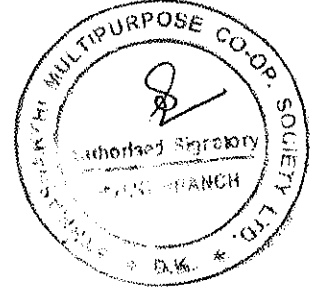


सत्यमेव जयते

INDIA NON JUDICIAL Government of Karnataka

e-Stamp

Certificate No.	: IN-KA247572361474610
Certificate Issued Date	: 15-Oct-2016 12:01 PM
Account Reference	: NONACC (FI)/ kacrsf108/ MULKI/ KA-DK
Unique Doc. Reference	: SUBIN-KAKACRSFL08992259338001370
Purchased by	: UDUPI POWER CORPORATION LTD
Description of Document	: Article 12 Bond
Description	: MEMORANDUM OF UNDERSTANDING
Consideration Price (Rs.)	: 0 (Zero)
First Party	: UDUPI POWER CORPORATION LTD
Second Party	: MAGMA ASH TECH
Stamp Duty Paid By	: UDUPI POWER CORPORATION LTD
Stamp Duty Amount(Rs.)	: 100 (One Hundred only)



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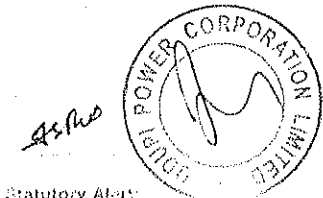
MEMORANDUM OF UNDERSTANDING (MOU) FOR UTILISATION OF DRY FLY ASH

This MOU is entered on this 15th day of October, 2016 between **Udupi Power Corporation Limited**, a Company registered under the Companies Act, 1956, and having its registered office at 1st floor, Lotus Towers, No: 34, Devaraja Urs Road, Race Course, Bengaluru-560 001, Karnataka, India (hereinafter referred to as "**UPCL**", which expression shall, unless excluded by or repugnant to the context or meaning thereof, be deemed to include its successors and assigns) being the party of the **FIRST PART**.

AND

For **MAGMA ASH TECH**

PARTNERS



Statutory Alert:

1. The authenticity of this Stamp Certificate should be verified at 'www.shoilestamp.com'. Any discrepancy in the details on this Certificate and as available on the website renders it invalid.
2. The issue of this Stamp has legitimacy to all the users of the certificate.
3. In case of any discrepancy please, inform the Competent Authority.

M/s. Magma Ash Tech, a firm registered under the Indian Partnership Act, 1932 and having its registered office at 1-17/73(1) Extension, Main Road, Land Links Township, Derebail, Konchady, Mangaluru- 575 008, India (hereinafter referred to as "MAT" which expression shall, unless excluded by or repugnant to the context or meaning thereof, be deemed to include its successors and assigns) being the party of the **SECOND PART**.

Both UPCL and MAT may hereinafter also be referred to jointly as the 'Parties' and severally as a 'Party'

WHEREAS

UPCL is in process to set up 2 x 800 MW (Phase – II) coal based Thermal Power Project, in Yellur village, Udupi Taluk & District, Karnataka (hereinafter referred to as "TPP") and shall be generating in process, substantial quantity of Fly Ash (hereinafter referred to as "dry fly ash") & bottom ash and wishes to utilise the dry fly ash as partial replacement to cement for manufacturing PPC Grade Cement, Ready Mix Concrete (RMC), for the purpose of manufacturing ash based products such as Block, Tiles, Bricks etc and to export for similar usages.

MAT, an EXIM House, based in Mangalore, exporting Fly Ash, Slag Sand, Aggregates & Rock Boulders, and currently exporting fly ash to their clients at Middle East, had approached UPCL to export such dry fly ash to their overseas customers.

The parties hereto have decided to enter into an MOU on the following terms and conditions:

NOW, THEREFORE, IN CONSIDERATION OF THE ABOVE PROVISIONS AND OF THE UNDERTAKINGS HEREIN FURNISHED, IT IS HEREBY AGREED BY AND BETWEEN THE PARTIES AS FOLLOWS:

- 1.0 UPCL will make available dry fly ash to be generated from its TPP to MAT to the tune of average 2000 tonnes per day ie., 7,30,000 tons per annum from the commercial date of operation for the purpose of domestic sales & Export to their overseas customers.
- 2.0 UPCL will make arrangements for dry collection of fly ash and pneumatic system for loading the same in bulkers to be deployed by MAT.
- 3.0 MAT shall lift dry fly ash in loose form from UPCL's Silo(s) at the TPP from the date of commercial operation as detailed herein for the purpose of Export to their overseas customers
- 4.0 MAT shall implement all safety measures in respect of its transportation equipment and manpower engaged for loading and transportation of fly ash within the TPP.
- 5.0 UPCL & MAT shall strictly adhere to all Pollution Control norms, measures and rules as may be prescribed from time to time by the competent Authority in this regard to avoid pollution while loading & transportation of fly ash within the premises of the TPP. UPCL offer fly ash on ex-works basis against form "H" for the purpose of export and against form "C"/ local VAT for domestic offtake. All transportation & exporting formalities shall be in the scope of Magma Ash tech.



For MAGMA ASH TECH

A handwritten signature in black ink, written over a circular stamp. The signature is slanted and appears to be "S. S. S. S. S." or similar.

PARTNERS

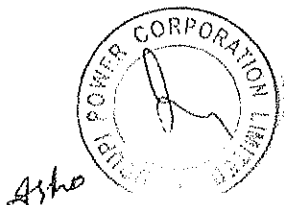
6.0 UPCL & Magma Ash Tech shall discuss the further steps to be taken in order to carry out the purpose of this MoU. Both the parties will endeavour to finalize and enter into such requisite Agreements, as may be necessary in line with the related rules, regulation and notifications of State/Central Government Department/Agencies.

EFFECTIVE DATE, COMMENCEMENT DATE & VALIDITY OF THE MOU

- 1.0 The effective date shall be the date of this MOU.
- 2.0 The Commencement date shall be the date of commissioning of the TPP by UPCL.
- 3.0 This MOU shall remain valid till the time a definitive detailed agreement incorporating all the commercials, scope, penalty and legal related matters is executed between the parties.

FORCE MAJEURE

- 1.0 "Force Majeure" shall mean any event beyond the reasonable control of any party and which is unavoidable notwithstanding the reasonable care of the party affected, and shall include, without limitation, the following:
 - a) War, hostilities or warlike operations (whether a state of war be declared or not), invasion, act of foreign enemy and civil war.
 - b) Earthquake, volcanic activity, fire, flood or inundation, tidal wave, typhoon or cyclone, hurricane, storm, lightning, or nuclear or other natural disaster or any government policy / regulation / restriction.
 - c) UPCL could not set up TPP by whatsoever may be the reason.
- 2.0 If any Party is prevented, hindered or delayed from or in performing any of its obligations under this MoU by an event of force majeure, then it shall notify the other party in writing of the occurrence of such event and the circumstances thereof within seven (7) days of the occurrence of such event.
- 3.0 The party who has given such notice shall be excused from the performance of its obligations under this MoU for so long as the relevant event of force majeure continues and to the extent that such party's performance is prevented, hindered or delayed by such force majeure.
- 4.0 The party affected by the event of force majeure shall use reasonable efforts to mitigate the effect thereof upon its or their performance of this MoU and to fulfil its or their obligations under this MoU.
- 5.0 Delay or non-performance by either party hereto caused by the occurrence of any event of force majeure shall not:
 - a) Constitute a default or breach of this MoU
 - b) Give rise to any claim for damages or additional cost or expense occasioned thereby.



For MAGMA ASH TECH

PARTNERS

TERMINATION

- 1.0 Any party may terminate this MoU by giving thirty (30) days' notice to the other party during the tenure of this MoU. However, either party shall continue to discharge their respective duties / obligations under the MoU during the notice period. Upon such termination, no party shall be liable to the other party except fulfilling obligations during notice period and in respect of any breach which may have occurred prior to such termination of this MoU or during the notice period.

SETTLEMENT OF DISPUTES

- 1.0 In case of any disputes, differences, claims between the parties hereto arising out of this MoU, the same shall be referred to the senior management of each Party for an amicable settlement.
- 2.0 In case no amicable solution is arrived at within a period of 30 days of such reference to the senior management, then the dispute will be referred to arbitration by a single arbitrator to be appointed by the mutual written consent of the Parties. In case the parties fail to appoint the sole arbitrator within 30 days from the notice of commencement of arbitration by any party, each Party shall appoint one arbitrator and the two arbitrators shall appoint the third arbitrator who shall act as the presiding arbitrator.
- 3.0 The venue of arbitration shall be Mumbai. The arbitration shall be conducted in accordance with the Arbitration and Conciliation Act, 1996. The language of arbitration shall be English. The award of the arbitrator(s) shall be final and binding.

The cost of arbitration shall be equally shared by both the parties or otherwise decided in the award passed in arbitration proceedings.

OTHER CONDITIONS:

- 1.0 This MoU shall be binding on the Parties and any amendment to this MoU in order to be valid shall be in writing.
- 2.0 This MoU shall be executed in 8 Original will be retained by the First party & copy duly signed & endorsed will be handed to the second party.

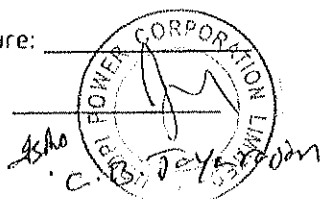
IN WITNESS WHEREOF THE PARTIES HERETO HAVE HEREUNTO SET THEIR RESPECTIVE HANDS AND SEALS THE DAY, MONTH AND YEAR FIRST ABOVE WRITTEN.

For UPCL

Signed and delivered by the

Signature: _____

Name: _____


C. B. Jeyarajan

Witness:

Signature: _____

Name: _____

T. Srinivasarao

For Magma Ash Tech

Signed and delivered by the

Signature: _____
For MAGMA ASH TECH

Name: _____

Mangal Singh
PARTNERS

Witness:

Signature: _____

Name: Anish Claude Castelino

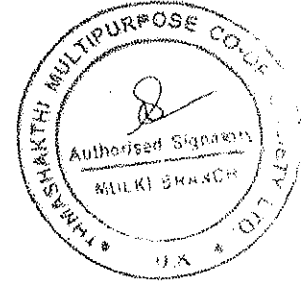
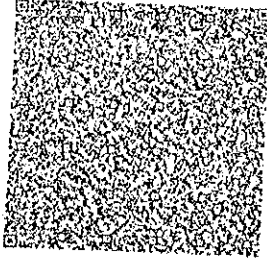


सत्यमेव जयते

INDIA NON JUDICIAL Government of Karnataka

e-Stamp

Certificate No.	: IN-KA277262551672490
Certificate Issued Date	: 20-Oct-2016 04:37 PM
Account Reference	: NONACC (FI)/ kacrsf108/ MULKI/ KA-DK
Unique Doc. Reference	: SUBIN-KAKACRSFL08051324894663230
Purchased by	: UDUPI POWER CORPORATION LTD
Description of Document	: Article 12 Bond
Description	: M O U FLYASH OFFTAKE
Consideration Price (Rs.)	: 0 (Zero)
First Party	: UDUPI POWER CORPORATION LTD
Second Party	: SUNPOWER CEMENT COMPANY PRIVATE LIMITED
Stamp Duty Paid By	: UDUPI POWER CORPORATION LTD
Stamp Duty Amount(Rs.)	: 100 (One Hundred only)



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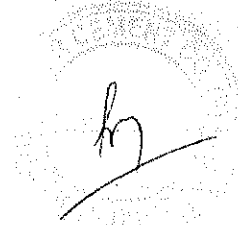
MEMORANDUM OF UNDERSTANDING (MOU) FOR UTILISATION OF DRY FLY ASH

THIS MOU is entered on this 21st day of October, 2016 between Udupi Power Corporation Limited, a Company registered under the Companies Act, 1956, and having its registered office at 1st floor, Lotus Towers, No: 34, Devaraja Urs Road, Race Course, Bengaluru-560 001, Karnataka, India (hereinafter referred to as "UPCL", which expression shall, unless excluded by or repugnant to the context or meaning thereof, be deemed to include its successors and assigns) being the party of the **FIRST PART**.

AND

Statutory Alert:

1. The authenticity of this Stamp Certificate should be verified at 'www.stampestamp.com'. Any discrepancy in the details on this Certificate and as available on the website renders it invalid.
2. The onus of checking the legitimacy is on the users of the certificate.
3. In case of any discrepancy please inform the Competent Authority.



Sunpower Cement Company Limited, a Company registered under the Company's Act 1956 and having its registered office at Np3/242, Chamavila Kallambalam, PO, Thiruvananthapuram - 695605, Kerala India (hereinafter referred to as "SCCPL" which expression shall, unless excluded by or repugnant to the context or meaning thereof, be deemed to include its successors and assigns) being the party of the **SECOND PART**.

Both UPCL and SCCPL may hereinafter also be referred to jointly as the 'Parties' and severally as a 'Party'

WHEREAS

UPCL is in process to set up 2 x 800 MW (Phase - II) coal based Thermal Power Project, in Yellur village, Udupi Taluk & District, Karnataka (hereinafter referred to as "TPP") and shall be generating in process, substantial quantity of Fly Ash (hereinafter referred to as "dry fly ash") & bottom ash and wishes to utilise the dry fly ash as partial replacement to cement for manufacturing PPC Grade Cement and for the purpose of manufacturing ash based products such as Ready mix concrete(RMC), Block, Tiles, Bricks etc.

SCCPL, a company based in Tiruvananthapuram, Kerala, engaged in manufacturing & sales of Cement, through its plant at VIII/1072, Petronet Road, Wisepark, Palakkad- 678621, Kerala had approached UPCL to use such dry fly ash as raw material for the purpose of manufacturing Portland Pozzolana cement.

The parties hereto have decided to enter into an MOU on the following terms and conditions:

NOW, THEREFORE, IN CONSIDERATION OF THE ABOVE PROVISIONS AND OF THE UNDERTAKINGS HEREIN FURNISHED, IT IS HEREBY AGREED BY AND BETWEEN THE PARTIES AS FOLLOWS:

- 1.0 UPCL will make available dry fly ash to be generated from its TPP to SCCPL to the tune of 400 tonnes per day ie., 1,46,000 tonnes per annum from the commercial date of operation for the purpose of manufacturing Portland Pozzolana Cement.
- 2.0 UPCL will make arrangements for dry collection of fly ash and pneumatic system for loading the same in bulkers to be deployed by SCCPL.
- 3.0 SCCPL shall lift dry fly ash in loose form from UPCL's Silo(s) at the TPP from the date of commercial operation as detailed herein for the purpose of manufacturing PPC at their plant in Kerala.
- 4.0 SCCPL shall implement all safety measures in respect of its transportation equipment and manpower engaged for loading and transportation of fly ash within the TPP.
- 5.0 UPCL & SCCPL shall strictly adhere to all Pollution Control norms, measures and rules as may be prescribed from time to time by the competent Authority in this regard to avoid pollution while loading & transportation of fly ash within the premises of the TPP.
- 6.0 UPCL & SCCPL shall discuss the further steps to be taken in order to carry out the purpose of this MoU. Both the parties will endeavour to finalize and enter into such requisite Agreements, as may be necessary in line with the related rules, regulation and notifications of State/Central Government Department/Agencies.



A handwritten signature in black ink, consisting of a stylized 'S' followed by a horizontal line and a diagonal stroke.

EFFECTIVE DATE, COMMENCEMENT DATE & VALIDITY OF THE MOU

- 1.0 The effective date shall be the date of this MOU.
- 2.0 The Commencement date shall be the date of commissioning of the TPP by UPCL.
- 3.0 This MOU shall remain valid till the time a definitive detailed agreement incorporating all the commercials, scope, penalty and legal related matters is executed between the parties.

FORCE MAJEURE

- 1.0 "Force Majeure" shall mean any event beyond the reasonable control of any party and which is unavoidable notwithstanding the reasonable care of the party affected, and shall include, without limitation, the following:
 - a) War, hostilities or warlike operations (whether a state of war be declared or not), invasion, act of foreign enemy and civil war.
 - b) Earthquake, volcanic activity, fire, flood or inundation, tidal wave, typhoon or cyclone, hurricane, storm, lightning, or nuclear or other natural disaster or any government policy / regulation / restriction.
 - c) UPCL could not set up TPP by whatsoever may be the reason.
- 2.0 If any Party is prevented, hindered or delayed from or in performing any of its obligations under this MoU by an event of force majeure, then it shall notify the other party in writing of the occurrence of such event and the circumstances thereof within seven (7) days of the occurrence of such event.
- 3.0 The party who has given such notice shall be excused from the performance of its obligations under this MoU for so long as the relevant event of force majeure continues and to the extent that such party's performance is prevented, hindered or delayed by such force majeure.
- 4.0 The party affected by the event of force majeure shall use reasonable efforts to mitigate the effect thereof upon its or their performance of this MoU and to fulfil its or their obligations under this MoU.
- 5.0 Delay or non-performance by either party hereto caused by the occurrence of any event of force majeure shall not:
 - a) Constitute a default or breach of this MoU
 - b) Give rise to any claim for damages or additional cost or expense occasioned thereby.

TERMINATION

- 1.0 Any party may terminate this MoU by giving thirty (30) days' notice to the other party during the tenure of this MoU. However, either party shall continue to discharge their respective duties / obligations under the MoU during the notice period. Upon such



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A handwritten signature, possibly "H", written in dark ink.

termination, no party shall be liable to the other party except fulfilling obligations during notice period and in respect of any breach which may have occurred prior to such termination of this MoU or during the notice period.

SETTLEMENT OF DISPUTES

- 1.0 In case of any disputes, differences, claims between the parties hereto arising out of this MoU, the same shall be referred to the senior management of each Party for an amicable settlement.
- 2.0 In case no amicable solution is arrived at within a period of 30 days of such reference to the senior management, then the dispute will be referred to arbitration by a single arbitrator to be appointed by the mutual written consent of the Parties. In case the parties fail to appoint the sole arbitrator within 30 days from the notice of commencement of arbitration by any party, each Party shall appoint one arbitrator and the two arbitrators shall appoint the third arbitrator who shall act as the presiding arbitrator.
- 3.0 The venue of arbitration shall be Mumbai. The arbitration shall be conducted in accordance with the Arbitration and Conciliation Act, 1996. The language of arbitration shall be English. The award of the arbitrator(s) shall be final and binding.

The cost of arbitration shall be equally shared by both the parties or otherwise decided in the award passed in arbitration proceedings.

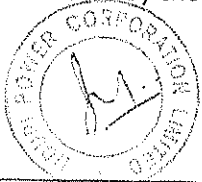
OTHER CONDITIONS:

- 1.0 This MoU shall be binding on the Parties and any amendment to this MoU in order to be valid shall be in writing.
- 2.0 This MoU shall be executed in and original will be retained by the first part & copy duly signed and endorsed will be handed to the second part.

IN WITNESS WHEREOF THE PARTIES HERETO HAVE HEREUNTO SET THEIR RESPECTIVE HANDS AND SEALS THE DAY, MONTH AND YEAR FIRST ABOVE WRITTEN.

For Udupi Power Corporation Limited

Signed and delivered by the



Signature: _____

Name: C. B. Jayarajan

Witness:

Signature: A. C. S. Rao

Name: T. SRINIVASA RAO

For Sunpower Cement Company Private Limited

Signed and delivered by the

Signature: [Signature]

Name: SHAMFER DAWOOD

Witness:

Signature: V. Krishna Kumar

Name: KRISHNA KUMAR. V

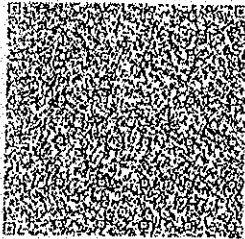
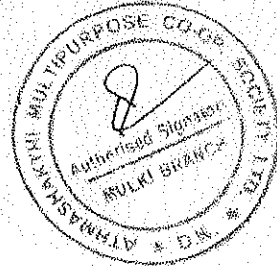


सत्यमेव जयते

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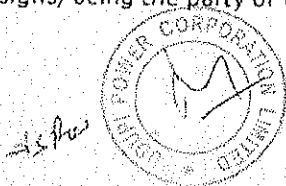
Certificate No.	: IN-KA284921108595260
Certificate Issued Date	: 22-Oct-2016 10:28 AM
Account Reference	: NONACC (FI)/ kaorsl08/ MULKI/ KA-DK
Unique Doc. Reference	: SUBIN-KAKACRSFL08066743177248770
Purchased by	: UDUPI POWER CORPORATION LTD
Description of Document	: Article 12 Bond
Description	: MOU FLYASH OFFTAKE
Consideration Price (Rs.)	: 0 (Zero)
First Party	: UDUPI POWER CORPORATION LTD
Second Party	: INVICRETE INDIA PRIVATE LIMITED
Stamp Duty Paid By	: UDUPI POWER CORPORATION LTD
Stamp Duty Amount(Rs.)	: 100 (One Hundred only)



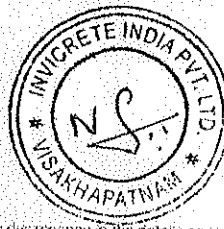
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MEMORANDUM OF UNDERSTANDING (MOU) FOR UTILISATION OF DRY FLY ASH

This MOU is entered on this 15th day of October, 2016 between Udupi Power Corporation Limited, a Company registered under the Companies Act, 1956, and having its registered office at 1st floor, Lotus Towers, No: 34, Devaraja Urs Road, Race Course, Bengaluru-560 001, Karnataka, India (hereinafter referred to as "UPCL", which expression shall, unless excluded by or repugnant to the context or meaning thereof, be deemed to include its successors and assigns) being the party of the FIRST PART.



AND



Statutory Alert:

1. The authenticity of this Stamp Certificate should be verified at www.e-stampstamp.com. Any discrepancy in the details on any Certificate and as available on the website renders it invalid.
2. The onus of checking the legitimacy is on the users of the certificate.
3. In case of any discrepancy please inform the Concerned Authority.

M/s. Invicrete India Private Ltd, a company registered under the Company's Act 1956 and having its registered office at MIG 18, near Vinayaka Temple, VUDA Layout, Marripalem, Visakhapatnam - 530 009, India (hereinafter referred to as "I IPL" which expression shall, unless excluded by or repugnant to the context or meaning thereof, be deemed to include its successors and assigns) being the party of the **SECOND PART**.

Both UPCL and I IPL may hereinafter also be referred to jointly as the 'Parties' and severally as a 'Party'

WHEREAS

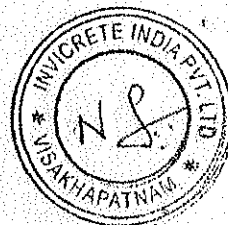
UPCL is in process to set up 2 x 800 MW (Phase - II) coal based Thermal Power Project, in Yellur village, Udupi Taluk & District, Karnataka (hereinafter referred to as "TPP") and shall be generating in process, substantial quantity of Fly Ash (hereinafter referred to as "dry fly ash") & bottom ash and wishes to utilise the dry fly ash as partial replacement to cement for manufacturing PPC Grade Cement, Ready Mix Concrete (RMC), for the purpose of manufacturing ash based products such as Block, Tiles, Bricks etc and to export for similar usages.

I IPL, an EXIM House, based in Visakhapatnam, exporting Fly Ash, Cenosphere & minerals, and currently exporting fly ash to their clients at Middle East, had approached UPCL to export such dry fly ash to their overseas customers.

The parties hereto have decided to enter into an MOU on the following terms and conditions:

NOW, THEREFORE, IN CONSIDERATION OF THE ABOVE PROVISIONS AND OF THE UNDERTAKINGS HEREIN FURNISHED, IT IS HEREBY AGREED BY AND BETWEEN THE PARTIES AS FOLLOWS:

- 1.0 UPCL will make available dry fly ash to be generated from its TPP to I IPL to the tune of average 1000 tonnes per day ie., 3,65,000 tons per annum from the commercial date of operation for the purpose of Export to their overseas customers.
- 2.0 UPCL will make arrangements for dry collection of fly ash and pneumatic system for loading the same in bulkers to be deployed by I IPL.
- 3.0 I IPL shall lift dry fly ash in loose form from UPCL's Silo(s) at the TPP from the date of commercial operation as detailed herein for the purpose of Export to their overseas customers
- 4.0 I IPL shall implement all safety measures in respect of its transportation equipment and manpower engaged for loading and transportation of fly ash within the TPP.
- 5.0 UPCL & I IPL shall strictly adhere to all Pollution Control norms, measures and rules as may be prescribed from time to time by the competent Authority in this regard to avoid pollution while loading & transportation of fly ash within the premises of the TPP. UPCL offer fly ash on ex-works basis against form "H" for the purpose of export by I IPL. All transportation & exporting formalities shall be in the scope of Magma Ash tech.
- 6.0 UPCL & I IPL shall discuss the further steps to be taken in order to carry out the purpose of this MoU. Both the parties will endeavour to finalize and enter into such requisite Agreements, as may be necessary in line with the related rules, regulation and notifications of State/Central Government Department/Agencies.



EFFECTIVE DATE, COMMENCEMENT DATE & VALIDITY OF THE MOU

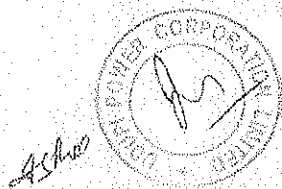
- 1.0 The effective date shall be the date of this MOU.
- 2.0 The Commencement date shall be the date of commissioning of the TPP by UPCL.
- 3.0 This MOU shall remain valid till the time a definitive detailed agreement incorporating all the commercials, scope, penalty and legal related matters is executed between the parties.

FORCE MAJEURE

- 1.0 "Force Majeure" shall mean any event beyond the reasonable control of any party and which is unavoidable notwithstanding the reasonable care of the party affected, and shall include, without limitation, the following:
 - a) War, hostilities or warlike operations (whether a state of war be declared or not), invasion, act of foreign enemy and civil war.
 - b) Earthquake, volcanic activity, fire, flood or inundation, tidal wave, typhoon or cyclone, hurricane, storm, lightning, or nuclear or other natural disaster or any government policy / regulation / restriction.
 - c) UPCL could not set up TPP by whatsoever may be the reason.
- 2.0 If any Party is prevented, hindered or delayed from or in performing any of its obligations under this MoU by an event of force majeure, then it shall notify the other party in writing of the occurrence of such event and the circumstances thereof within seven (7) days of the occurrence of such event.
- 3.0 The party who has given such notice shall be excused from the performance of its obligations under this MoU for so long as the relevant event of force majeure continues and to the extent that such party's performance is prevented, hindered or delayed by such force majeure.
- 4.0 The party affected by the event of force majeure shall use reasonable efforts to mitigate the effect thereof upon its or their performance of this MoU and to fulfil its or their obligations under this MoU.
- 5.0 Delay or non-performance by either party hereto caused by the occurrence of any event of force majeure shall not:
 - a) Constitute a default or breach of this MoU
 - b) Give rise to any claim for damages or additional cost or expense occasioned thereby.

TERMINATION

- 1.0 Any party may terminate this MoU by giving thirty (30) days' notice to the other party during the tenure of this MoU. However, either party shall continue to discharge their respective duties / obligations under the MoU during the notice period. Upon such



termination, no party shall be liable to the other party except fulfilling obligations during notice period and in respect of any breach which may have occurred prior to such termination of this MoU or during the notice period.

SETTLEMENT OF DISPUTES

- 1.0 In case of any disputes, differences, claims between the parties hereto arising out of this MoU, the same shall be referred to the senior management of each Party for an amicable settlement.
- 2.0 In case no amicable solution is arrived at within a period of 30 days of such reference to the senior management, then the dispute will be referred to arbitration by a single arbitrator to be appointed by the mutual written consent of the Parties. In case the parties fail to appoint the sole arbitrator within 30 days from the notice of commencement of arbitration by any party, each Party shall appoint one arbitrator and the two arbitrators shall appoint the third arbitrator who shall act as the presiding arbitrator.
- 3.0 The venue of arbitration shall be Mumbai. The arbitration shall be conducted in accordance with the Arbitration and Conciliation Act, 1996. The language of arbitration shall be English. The award of the arbitrator(s) shall be final and binding.

The cost of arbitration shall be equally shared by both the parties or otherwise decided in the award passed in arbitration proceedings.

OTHER CONDITIONS:

- 1.0 This MoU shall be binding on the Parties and any amendment to this MoU in order to be valid shall be in writing.
- 2.0 This MoU shall be executed in 8 Original will be retained by the First party & copy duly signed & endorsed will be handed to the second party.

IN WITNESS WHEREOF THE PARTIES HERETO HAVE HEREUNTO SET THEIR RESPECTIVE HANDS AND SEALS THE DAY, MONTH AND YEAR FIRST ABOVE WRITTEN.

For Udupi Power Corporation Limited

Signed and delivered by the



Signature: _____

Name: C. B. Jayaraman

Witness:

Signature: A. Srinivas Rao

Name: T. SRINIVASARAO

For Invicrete India Private Limited

Signed and delivered by the



Signature: _____
FOR INVICRETE INDIA PVT. LTD.

Name: _____

N. Suresh Kumar

Witness:

Director

Signature: RASESH

Name: RASESH

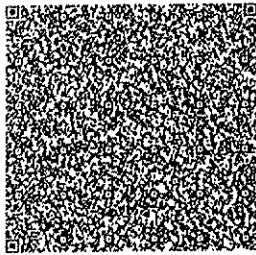
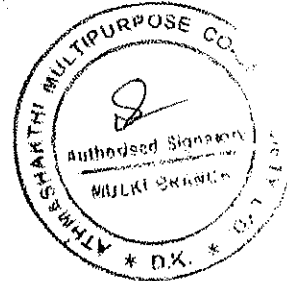


सत्यमेव जयते

INDIA NON JUDICIAL Government of Karnataka

e-Stamp

Certificate No.	: IN-KA277333237637830
Certificate Issued Date	: 20-Oct-2016 04:43 PM
Account Reference	: NONACC (FI)/ kacrsf108/ MULKI/ KA-DK
Unique Doc. Reference	: SUBIN-KAKACRSFL08051412320269380
Purchased by	: UDUPI POWER CORPORATION LTD
Description of Document	: Article 12 Bond
Description	: M O U FLYASH OFFTAKE
Consideration Price (Rs.)	: 0 (Zero)
First Party	: UDUPI POWER CORPORATION LTD
Second Party	: VINTECH INDIA CORPORATION
Stamp Duty Paid By	: UDUPI POWER CORPORATION LTD
Stamp Duty Amount(Rs.)	: 100 (One Hundred only)



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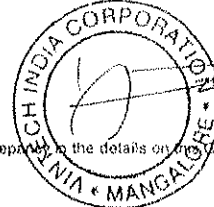
MEMORANDUM OF UNDERSTANDING (MOU) FOR UTILISATION OF DRY FLY ASH

THIS MOU is entered on this 20th day of October, 2016 between **Udupi Power Corporation Limited**, a Company registered under the Companies Act, 1956, and having its registered office at 1st floor, Lotus Towers, No: 34, Devaraja Urs Road, Race Course, Bengaluru-560 001, Karnataka, India (hereinafter referred to as "**UPCL**"), which expression shall, unless excluded by or repugnant to the context or meaning thereof, be deemed to include its successors and assigns) being the party of the **FIRST PART**.

AND

Statutory Alert:

1. The authenticity of this Stamp Certificate should be verified at 'www.shcilestamp.com'. Any discrepancy in the details on the certificate and as available on the website renders it invalid.
2. The onus of checking the legitimacy is on the users of the certificate.
3. In case of any discrepancy please inform the Competent Authority.



Vintech India Corporation, dealers registered under section 22 of Karnataka VAT 2003 and having its Office at 6-8-162/10, Veenu Buildings, Mannagudda, Manalore - 575003 (hereinafter referred to as "VIC" which expression shall, unless excluded by or repugnant to the context or meaning thereof, be deemed to include its successors and assigns) being the party of the **SECOND PART**.

Both UPCL and VIC may hereinafter also be referred to jointly as the 'Parties' and severally as a 'Party'

WHEREAS

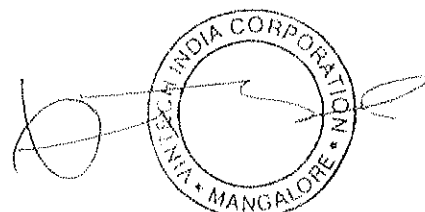
UPCL is in process to set up 2 x 800 MW (Phase - II) coal based Thermal Power Project, in Yellur village, Udupi Taluk & District, Karnataka (hereinafter referred to as "TPP") and shall be generating in process, substantial quantity of Fly Ash (hereinafter referred to as "dry fly ash") & bottom ash and wishes to utilise the dry fly ash as partial replacement to cement for manufacturing PPC Grade Cement and for the purpose of manufacturing ash based products such as Ready mix concrete(RMC), Block, Tiles, Bricks etc.

VIC, a dealer based in Mangalore, engaged in fly ash trading with good customer base, serving more than 100 customers viz., brick manufacturing units & Ready mix units by establishing bagging unit near UPCL and have considerable number of closed fly ash bulkers for fly ash movement had approached UPCL for allotting more fly ash quantities for the purpose of expansion of their business.

The parties hereto have decided to enter into an MOU on the following terms and conditions:

NOW, THEREFORE, IN CONSIDERATION OF THE ABOVE PROVISIONS AND OF THE UNDERTAKINGS HEREIN FURNISHED, IT IS HEREBY AGREED BY AND BETWEEN THE PARTIES AS FOLLOWS:

- 1.0 UPCL will make available dry fly ash to be generated from its TPP to VIC to the tune of 300 tonnes per day ie., 1,09,500 tonnes per annum from the commercial date of operation for the purpose of serving their fly ash customers.
- 2.0 UPCL will make arrangements for dry collection of fly ash and pneumatic system for loading the same in bulkers to be deployed by VIC.
- 3.0 VIC shall lift dry fly ash in loose form from UPCL's Silo(s) at the TPP from the date of commercial operation as detailed herein for the purpose of supplying the same to their customers.
- 4.0 VIC shall implement all safety measures in respect of its transportation equipment and manpower engaged for loading and transportation of fly ash within the TPP,
- 5.0 UPCL & VIC shall strictly adhere to all Pollution Control norms, measures and rules as may be prescribed from time to time by the competent Authority in this regard to avoid pollution while loading & transportation of fly ash within the premises of the TPP.
- 6.0 UPCL & VIC shall discuss the further steps to be taken in order to carry out the purpose of this MoU. Both the parties will endeavour to finalize and enter into such requisite Agreements, as may be necessary in line with the related rules, regulation and notifications of State/Central Government Department/Agencies.



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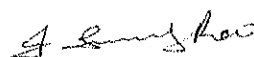
For Udupi Power Corporation Limited

Signed and delivered by the

Signature: 

Name: C. B. Jagarajan

Witness:

Signature: 

Name: T. SRINIVASA RAO

For Vintech India Corporation

Signed and delivered by the

Signature: 

Name: Vinod M. SHERKAR

Witness:

Signature: 

Name: HARKISHAN SALKAR