

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS**

RFP/RFQ No. 2009/Elect (G)/150/12

REQUEST FOR PROPOSAL

CONSULTANCY

FOR

SETTING UP

1320 MW THERMAL POWER PLANT

AT

ADRA, PURULIA (DISTRICT) WEST BENGAL

**RAILWAY BOARD
RAIL BHAVAN, RAISINA ROAD
NEW DELHI – 110001
INDIA**

DISCLAIMER

The information contained in this Request for Proposal document (“**RFP**”) or subsequently provided to Applicants, whether verbally or in documentary or any other form by or on behalf of the Authority or any of its employees or advisers, is provided to Applicants on the terms and conditions set out in this RFP and such other terms and conditions subject to which such information is provided.

This RFP is not an agreement and is neither an offer nor invitation by the Authority to the prospective Applicants or any other person. The purpose of this RFP is to provide interested parties with information that may be useful to them in the formulation of their Proposals pursuant to this RFP. This RFP includes statements, which reflect various assumptions and assessments arrived at by the Authority in relation to the Consultancy. Such assumptions, assessments and statements do not purport to contain all the information that each Applicant may require. This RFP may not be appropriate for all persons, and it is not possible for the Authority, its employees or advisers to consider the objectives, technical expertise and particular needs of each party who reads or uses this RFP. The assumptions, assessments, statements and information contained in this RFP, may not be complete, accurate, adequate or correct. Each Applicant should, therefore, conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments and information contained in this RFP and obtain independent advice from appropriate sources.

Information provided in this RFP to the Applicants is on a wide range of matters, some of which depends upon interpretation of law. The information given is not an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. The Authority accepts no responsibility for the accuracy or otherwise for any interpretation or opinion on the law expressed herein.

The Authority, its employees and advisers make no representation or warranty and shall have no liability to any person including any Applicant under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this RFP or otherwise, including the accuracy, adequacy, correctness, reliability or completeness of the RFP and any assessment, assumption, statement or information contained therein or deemed to form part of this RFP or arising in any way in this Selection Process.

The Authority also accepts no liability of any nature whether resulting from negligence or otherwise however caused arising from reliance of any Applicant upon the statements contained in this RFP.

The Authority may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or assumption contained in this RFP.

The issue of this RFP does not imply that the Authority is bound to select an Applicant or to appoint the Selected Applicant, as the case may be, for the Consultancy and the Authority reserves the right to reject all or any of the Proposals without assigning any reasons whatsoever.

The Applicant shall bear all its costs associated with or relating to the preparation and submission of its Proposal including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by the Authority or any other costs incurred in connection with or relating to its Proposal. All such costs and expenses will remain with the Applicant and the Authority shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by an Applicant in preparation or submission of the Proposal, regardless of the conduct or outcome of the Selection Process.

GLOSSARY

Additional Costs	As in Item H of Form-2 of Appendix-II
Agreement	As defined in Schedule-2
Agreement Value	As defined in Clause 6.1.2 of Schedule-2
Applicable Laws	As defined in Schedule-2
AOA	Article of Association
Applicant	As defined in Clause 2.1.1
Associate	As defined in Clause 2.3.3
Authorised Representative	As defined in Clause 2.13.3
Authority	As defined in Clause 1.1.1
Bid Security	As defined in Clause 2.20.1
CERC	Central Electricity Regulatory Commission
Conditions of Eligibility	As defined in Clause 2.2.1
Conflict of Interest	As defined in Clause 2.3.1
Consultancy	As defined in Clause 1.2
Consultancy Team	As defined in [Clause 8] of Schedule-1
Consultant	As defined in Clause 1.2
CTU	Central Transmission Utility
CV	Curriculum Vitae
Deliverables	As defined in Clause 4 of Schedule-1
DISCOMs	Distribution Companies
Documents	As defined in Clause 2.12
DPR	As defined in [clause 4.2] of Schedule -1
Project Report	
Effective Date	As defined in Clause 2.1 of Schedule-2
Eligible Assignments	As defined in Clause 3.1.4
Expatriate Personnel	As defined in Clause 1.1.1(i) of Schedule-2
Financial Proposal	As defined in Clause 2.15.1
Form of Agreement	Form of Agreement as in Schedule-2
IR	Indian Railways
JVA	Joint Venture Agreement
INR, Re, Rs	Indian Rupees
Inception Report	As specified in [Clause 4.1] of Schedule-1
Key Date or KD	As defined in [Clause 6.2] of Schedule-1
Key Personnel	As defined in Clause 2.1.4

Lead Member	As defined in Clause 2.1.1
Legal Expert	As defined in Clause 2.1.4
SEB	State Electricity Boards
SERC	Sate Electricity Regulatory Commission
LOA	Letter of Award
Member	As defined in Clause 2.3.3(i)
MOA	Memorandum of Association
Official Website	As defined in Clause 1.9.3
Personnel	As defined in Clause 1.1.1(m) of Schedule-2
PGCIL	Power Grid Corporation India Limited
PPA	Power Purchase Agreement
Professional Personnel	As defined in Clause 2.14.6
Prohibited Practices	As defined in Clause 4.1
Project	As defined in Clause 1.1.1
Project Manager	As defined in Clause 4.6 of Schedule-2
Proposal	As defined in Clause 1.2
Proposal Due Date or PDD	As defined in Clauses 1.5 and 1.8
Resident Personnel	As defined in Clause 1.1.1(o) of Schedule-2
RFP	As defined in Disclaimer
SPV	Special Purpose Vehicle
Selected Applicant	As defined in Clause 1.6
Selection Process	As defined in Clause 1.6
Services	As defined in Clause 1.1.1(q) of Schedule-2
Sole Firm	As defined in Clause 2.1.1
Statement of Expenses	As defined in Note 13, Form-2 of Appendix-II
Statutory Auditor	An Auditor appointed under Applicable Laws
Sub-Consultant	As defined in Clause 1.1.1(r) of Schedule-2
Support Personnel	As defined in Clause 2.14.6
Team Leader	As defined in Clause 2.1.4
Technical Proposal	As defined in Clause 2.14.1
TOR	As defined in Clause 1.1.4

The words and expressions beginning with capital letters and defined in this document shall, unless repugnant to the context, have the meaning ascribed thereto herein.

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1. INTRODUCTION

1.1 Background

- 1.1.1 The President of India acting through the Ministry of Railways, Government of India, and represented by the Executive Director (Electrical Energy Management), Railway Board, (the “**Authority**”) has decided to undertake setting up of a coal based thermal power plant at Adra, District Purulia, West Bengal (the “**Project**”).
- 1.1.2 Indian Railways (IR) avails power for traction supply at 220 kV/132kv/66kV for feeding electrical supply for running trains on electrified routes from Distribution Companies, Power Companies and State Electricity Boards. Indian Railways annual consumption for electricity on traction use at present is 12.2 billion unit and average purchase cost of electricity is 440 paise per unit. Indian Railways intends to set up coal based thermal power plant at Adra to avail traction power supply at most economical rate.
- 1.1.3 The coal based thermal power plant at Adra, West Bengal, (the “**project**”) shall generate and supply 1320 MW electric power at its bus bar and this power shall be wheeled to the load centres of Indian Railways (IR) through appropriate CTUs/STUs/DISCOMs/Railway owned transmission network.
- 1.1.4 In pursuance of the above, the Authority has decided to carry out the process for selection of a Consultant for preparing the detailed project report(DPR) & bid process management in accordance with the Terms of Reference specified at Schedule-1 (the “**TOR**”).

1.2 Request for Proposal

The Authority invites Proposals (the “**Proposals**”) for selection of a Consultant (the “**Consultant**”) who shall provide consultancy services in preparation of detailed project report & bid documents for setting up power plant and selection of bidders for execution of the Project in accordance with the Term of Reference (the “**Consultancy**”).

The Authority intends to select the Consultant through an open competitive bidding in accordance with the procedure set out herein.

1.3 Due diligence by Applicants

Applicants are encouraged to inform themselves fully about the assignment and the local conditions before submitting the Proposal by paying a visit to the Authority and the Project site, sending written queries to the Authority, and attending a Pre-Proposal Conference on the date and time specified in Clause 1.10.

1.4 Sale of RFP Document

RFP document can be obtained on all working days, from 25.01.2010 to 25.02.2010 between 1000 hrs and 1700 hrs, on payment of a fee of Rs. 20,000 (Rupees twenty thousand only) in the form of a demand draft drawn on any Scheduled Bank/Nationalized bank in India in favour of Pay & Accounts Officer, Railway Board and payable at New Delhi. A receipt thereof should be obtained from the person specified in Clause 1.9.1

The document can also be downloaded from the Official Website of the Authority. Applicants who have downloaded the RFP document from the Authority's website should, along with their Bid, submit the fee of Rs. **20,000 (Rupees twenty thousand only)** in the form of a demand draft drawn on any Scheduled Bank/Nationalized bank in India in favour of Pay & Accounts Officer, Railway Board and payable at New Delhi.

1.5 Validity of the Proposal

The Proposal shall be valid for a period of not less than 90 days from the Proposal Due Date (the “PDD”).

1.6 Brief description of the Selection Process

The Authority has adopted a two stage selection process (collectively the “**Selection Process**”) in evaluating the Proposals comprising technical and financial bids to be submitted in two separate sealed envelopes. In the first stage, a technical evaluation will be carried out as specified in Clause 3.1. Based on this technical evaluation, a list of short-listed applicants shall be prepared as specified in Clause 3.2. In the second stage, a financial evaluation will be carried out as specified in Clause 3.3. Proposals will finally be ranked according to their combined technical and financial scores as specified in Clause 3.4. The first ranked Applicant shall be selected for negotiation (the “**Selected Applicant**”) while the second ranked Applicant will be kept in reserve.

1.7 Currency conversion rate and payment

- 1.7.1 The rate quotable by tenderer shall be in Indian Rs. only (INR) for the purposes of technical evaluation of Applicants, Rs. 50 per US\$ shall be considered as the applicable currency conversion rate. In case of any other currency, the same shall first be converted to US\$ as on the date 60 (sixty) days prior to the Proposal Due Date, and the amount so derived in US\$ shall be converted into INR at the aforesaid rate. The conversion rate of such currencies shall be the daily representative exchange rates published by the International Monetary Fund for the relevant date.
- 1.7.2 All payments to the Consultant shall be made in INR only in accordance with the provisions of this RFP. The Consultant may convert INR into any foreign currency as per Applicable Laws and the exchange risk, if any, shall be borne by the Consultant.

1.8 Schedule of Selection Process

the Authority would endeavour to adhere to the following schedule:

Event Description	Estimated Date
Last date for receiving queries/clarifications	- 05.02.2010
Pre-Proposal Conference	- 11.02.2010
the Authority response to queries	- 18.02.2010
Proposal Due Date or PDD	- 04.03.2010
Opening of Proposals	- 04.03.2010
Validity of Applications	- 90 days from Proposal Due Date

1.9 Communications

- 1.9.1 All communications including the submission of Proposal should be addressed to:

Executive Director, Electrical Energy Management,
Ministry of Railways (Railway Board),
Room No.-102-A, Rail Bhavan,

Raisina Road,
New Delhi-110001 (India)
Phone: +91-11-23386991 Fax: +91-11-23386991
Email: edeem@rb.railnet.gov.in

- 1.9.2 All communications, including the envelopes, should contain the following information, to be marked at the top in bold letters:

RFP Notice No./ 2009/Elect/G/ 150/12.

CONSULTANCY FOR SETTING UP COAL BASED THERMAL POWER
PLANT AT ADRA, WEST BENGAL.

- 1.9.3 The **Official Website** of the Authority is:

<http://www.indianrailways.gov.in>

1.10 Pre-Proposal Conference

The date, time and venue of Pre-Proposal Conference shall be:

Date : 11.02.2010

Time: 1100 hrs

Venue: Conference Hall, Rail Bhawan, New Delhi.

2. INSTRUCTIONS TO APPLICANTS

A. GENERAL

2.1 Scope of Proposal

2.1.1 Detailed description of the objectives, scope of services, Deliverables and other requirements relating to this Consultancy are specified in this RFP. In case an applicant firm possesses the requisite experience and capabilities required for undertaking the Consultancy, it may participate in the Selection Process either individually (the “**Sole Firm**”) or as lead member of a consortium of firms (the “**Lead Member**”) in response to this invitation. The term applicant (the “**Applicant**”) means the Sole Firm or the Lead Member, as the case may be. The manner in which the Proposal is required to be submitted, evaluated and accepted is explained in this RFP.

2.1.2 Applicants are advised that the selection of Consultant shall be on the basis of an evaluation by the Authority through the Selection Process specified in this RFP. Applicants shall be deemed to have understood and agreed that no explanation or justification for any aspect of the Selection Process will be given and that the Authority’s decisions are without any right of appeal whatsoever.

2.1.3 The Applicant shall submit its Proposal in the form and manner specified in this Part-2 of the RFP. The Technical proposal shall be submitted in the form at Appendix-I and the Financial Proposal shall be submitted in the form at Appendix-II. Upon selection, the Applicant shall be required to enter into an agreement with the Authority in the form specified at Schedule-2.

2.1.4 Key Personnel

The Consultancy Team shall consist of the following key personnel (the “**Key Personnel**”) who shall discharge their respective responsibilities as specified below:

Key Personnel	Responsibilities
Thermal Power Plant Expert (Team Leader)	He will lead, co-ordinate and supervise the multidisciplinary team for preparation of the Bid documents, PPA and land lease agreement. He will coordinate for preparation of detailed project report and environmental clearances.
Thermal Power Project Development Expert	He will be responsible for organizing all feasibilities studies, clearances and investigations including preparation of detailed project report and provide technical assistance during bid process management for setting up 1320 MW Thermal Power Plant.
Commercial Expert	He will be responsible for preparation of RFQ/RFP bid documents based on option agreed by Authority for setting up of a 1320 MW thermal power plant on competitive bidding and assist Authority for evaluation of bid documents.
Financial Expert	He will assist in preparation of Bid Documents, financial appraisal of project and assist in filling tariff petitions to the various regulators.
Environmental Expert	He will be responsible for obtaining environmental clearances for the project and other issues related to environment.
Legal Expert	He will be responsible for reviewing of bid documents and correctness of all documents and agreements from legal perspective. He will also assist on issues related with regulatory and tariff.

2.2 Conditions of Eligibility of Applicants

2.2.1 Applicants must read carefully or the associate partner the Conditions of Eligibility criteria (the “**Conditions of Eligibility**”) provided herein. Proposals of only those Applicants who satisfy the Conditions of Eligibility (the “**Eligible Applicants**”) will be considered for evaluation.

2.2.2 To be eligible for evaluation of its Proposal, the Applicant shall fulfil the following:

(A) **Technical Capacity:**

(i) The Applicant shall have, over the past 10 (ten) years, preceding the Proposal Due Date, prepared detailed project report (DPR) of minimum five eligible assignments, as specified in clause 3.1.4(a)

(ii) The Applicant must have experience of assisting at least one Electricity Regulatory Commissions/Distribution Companies/Generating Companies/Transmission Companies in the tariff determination under Regulatory regime in the past five years preceding Proposal Due Date.

(B) **Financial Capacity:** The Applicant shall have received a minimum income of Rs.10 (ten) crore or US \$ 2(two) million per annum from professional fees during each of the 3 (three) financial years preceding the Proposal Due Date. For the avoidance of doubt, professional fees here under refers to fees received by the Applicant for providing advisory or consultancy services to its clients.

(C) **Availability of Key Personnel:** The Applicant shall offer and make available Key Personnel meeting the requirements specified in Sub-clause (D) below.

(D) **Conditions of Eligibility criteria for Key Personnel:** Each of the Key Personnel must fulfill the minimum Conditions of Eligibility criteria specified below:

Key Personnel	Educational Qualification	Length of Professional Experience	Experience on Eligible Assignments
Thermal Power Plant Expert (Team Leader)	Bachelor in Engineering/ Management or equivalent	10 years	He should have, over the past 10 (ten) years, preceding the Proposal Due Date, led or participated as Thermal Power Plant expert in the advisory teams for a minimum of one relevant Eligible Assignment. {3.1.4(b)}
Thermal Power Project Development Expert	Bachelor in Electrical/ Mechanical/Civil Engineering	10 years	He should have, over the past 10 (ten) years, preceding the Proposal Due Date, participated on technical aspects of power plant development, including preparation of Detailed Project Reports for a minimum of two eligible assignments. {3.1.4(c)}
Commercial Expert	Bachelor in Civil/Electrical/ Mechanical/ Industrial Engineering	4 years	He should have, over the past 4(four) years, preceding the Proposal Due Date, participated in bid preparation and their evaluation for Thermal power plants on competitive tariff based bidding for a minimum of one relevant Eligible Assignment. {3.1.4(d)}

Financial Expert	MBA/CA/ICWA	4 years	He should have, over the past 4(four) years, preceding the Proposal Due Date, participated in bid preparation and their evaluation for Thermal power plants on competitive tariff based bidding for one relevant Eligible Assignment or assisted in a minimum of 2 (two) assignments for Electricity Regulatory Commissions /Distribution/Transmission/Generating companies on tariff related issues
Legal Expert	Bachelor in Law	10 years	He should have, over the past 10(Ten) years, preceding the Proposal Due Date, participated as legal expert for a minimum of two relevant eligible assignments. {3.1.4(f)}
Environmental Expert	Master/Bachelor Degree in Environmental Science or equivalent	10 Years	He should have, over the past 10 (Ten) years, preceding the Proposal Due Date, participated as environmental expert for a minimum of two relevant eligible assignments. {3.1.4(g)}

- 2.2.3 The Applicant shall enclose with its Proposal, certificate(s) from its Statutory Auditors^{\$} stating its total revenues from professional fees during each of the past three financial years and the fee received in respect of each of the Eligible Assignments specified in the Proposal. In the event that the Applicant does not have a statutory auditor, it shall provide the requisite certificate(s) from the firm of Chartered Accountants that ordinarily audits the annual account of the Applicant.
- 2.2.4 The Applicant should submit a Power of Attorney, as per the format at Form - 4 of Appendix-I, authorizing the signatory of the Proposal to commit the Applicant. In case the Bidder is a Consortium, the Members thereof should furnish a Power of Attorney in favour of the Lead Member in the format at Form – 3 of Appendix – I.
- 2.2.5 Any entity which has been barred by the Central Government, any State Government, a statutory authority or a public sector undertaking, as the case may be, from participating in any project, and the bar subsists as on the date of Proposal, would not be eligible to submit a Proposal either by itself or through its Associate.
- 2.2.6 An Applicant or its Associate should have, during the last three years, neither failed to perform on any agreement, as evidenced by imposition of a penalty by an arbitral or judicial authority or a judicial pronouncement or arbitration award against the Applicant or its Associate, nor been expelled from any project or agreement nor have had any agreement terminated for breach by such Applicant or its Associate.
- 2.2.7 While submitting a Proposal, the Applicant should attach clearly marked and referenced continuation sheets in the event that the space provided in the specified forms in the Appendices is insufficient. Alternatively, Applicants may format the specified forms making due provision for incorporation of the requested information.

2.3 Conflict of Interest

- 2.3.1 An Applicant shall not have a conflict of interest that may effect the selection process or the consultancy (the “**Conflict of Interest**”). An applicant found to have conflict of interest shall be disqualified. In the event of disqualification,

the Authority shall forfeit and appropriate the Bid Security as mutually agreed genuine pre-estimated compensation and damages payable to the Authority for , inter-alia, the time, cost and effort of the Authority including consideration of such Applicant's Proposals, without prejudice to any other right or remedy that may be available to the Authority hereunder or otherwise.

- 2.3.2 The Authority requires that the Consultant provides professional, objective, and impartial advice and at all times hold the Authority's interests paramount, avoid conflicts with other assignments or its own interests, and act without any consideration for future work. The Consultant shall not accept or engage in any assignment that would be in conflict with its prior or current obligations to other employers, or that may place it in a position of not being able to carry out the assignment in the best interests of the Authority.
- 2.3.3 Some guiding principles for identifying and addressing Conflicts of Interest have been illustrated in the Guidance Note at Schedule-3. Without limiting the generality of the above, an Applicant shall be deemed to have a Conflict of Interest affecting the Selection Process, if:
- (a) the Applicant, its consortium member (the "**Member**") or Associate (or any constituent thereof) and any other Applicant, its consortium member or Associate (or any constituent thereof) have common controlling shareholders or other ownership interest; provided that this disqualification shall not apply in cases where the direct or indirect shareholding of an applicant, its Member or Associate (or any shareholder thereof having a shareholding of more than 5 per cent of the paid up and subscribed share capital of such Applicant, Member or Associate, as the case may be) in the other Applicant, its consortium member or Associate is less than 5% (five per cent) of the paid up and subscribed share capital of such Applicant, its consortium member or Associate; provided further that this disqualification shall not apply to any ownership by a bank, insurance company, pension fund or a Public Financial Institution referred to in section 4A of the Companies Act, 1956; or
 - (b) a constituent of such Applicant is also a constituent of another Applicant; or
 - (c) such Applicant or its Associate receives or has received any direct or indirect subsidy or grant from any other Applicant or its Associate; or

- (d) such Applicant has the same legal representative for purposes of this Application as any other Applicant; or
- (e) such Applicant has a relationship with another Applicant, directly or through common third parties, that puts them in a position to have access to each others' information about, or to influence the Application of either or each of the other Applicant; or
- (f) there is a conflict among this and other consulting assignments of the Applicant (including its personnel and Sub-Consultant) and any subsidiaries or entities controlled by such Applicant or having common controlling shareholders. The duties of the Consultant will depend on the circumstances of each case. While providing consultancy services to the Authority for this particular assignment, the Consultant shall not take up any assignment that by its nature will result in conflict with the present assignment; or
- (g) a firm which has been engaged by the Authority to provide goods or works or services for a project, and its Associates, will be disqualified from providing consulting services for the same project; conversely, a firm hired to provide consulting services for the preparation or implementation of a project, and its Members or Associates, will be disqualified from subsequently providing goods or works or services related to the same project; or
- (h) the Applicant, its Member or Associate (or any constituent thereof), and the bidder or Supplier, if any, for the Project, its contractor(s) or sub-contractor(s) (or any constituent thereof) have common controlling shareholders or other ownership interest; provided that this disqualification shall not apply in cases where the direct or indirect shareholding or ownership interest of an Applicant, its Member or Associate (or any shareholder thereof having a shareholding of more than 5% (five per cent) of the paid up and subscribed share capital of such Applicant, Member or Associate, as the case may be,) in the bidder or Supplier, if any, or its contractor(s) or sub-contractor(s) is less than 5% (five per cent) of the paid up and subscribed share capital of such Supplier or its contractor(s) or sub-contractor(s); provided further that this disqualification shall not apply to ownership by a bank, insurance company, pension fund or a Public Financial Institution referred to in section 4A of the Companies Act, 1956. For the purposes of this RFP, Associate means, in relation to the Applicant/Consortium Member, a person who controls, is controlled by, or is under the common control with such Applicant/Consortium Member

(the “**Associate**”). As used in this definition, the expression “control” means, with respect to a person which is a company or corporation, the ownership, directly or indirectly, of more than 50% (fifty per cent) of the voting shares of such person, and with respect to a person which is not a company or corporation, the power to direct the management and policies of such person by operation of law or by contract or otherwise.

- 2.3.4 An Applicant eventually appointed to provide Consultancy for this Project, and its Associates, shall be disqualified from subsequently providing goods or works or services related to the construction and operation of the same Project and any breach of this obligation shall be construed as Conflict of Interest; provided that the restriction herein shall not apply after a period of 5 (five) years from the completion of this assignment or to consulting assignments granted by banks/ lenders at any time; provided further that this restriction shall not apply to consultancy/ advisory services performed for the Authority in continuation of this Consultancy or to any subsequent consultancy/ advisory services performed for the Authority in accordance with the rules of the Authority. For the avoidance of doubt, an entity affiliated with the Consultant shall include a partner in the Consultant’s firm or a person who holds more than 5% (five per cent) of the subscribed and paid up share capital of the Consultant, as the case may be, and any Associate thereof.

2.4 Number of Proposals

An Applicant is eligible to submit only one Application for the Consultancy. An Applicant applying individually or as a member of a Consortium shall not be entitled to submit another application either individually or as a member of any Consortium, as the case may be.

2.5 Cost of Proposal

The Applicants shall be responsible for all of the costs associated with the preparation of their Proposals and their participation in the Selection Process including subsequent negotiation, visits to the Authority, Project site etc. The Authority will not be responsible or in any way liable for such costs, regardless of the conduct or outcome of the Selection Process.

2.6 Site visit and verification of information

Applicants are encouraged to submit their respective Proposals after visiting the Project site and ascertaining for themselves the site conditions, availability of inputs/raw materials, location, surroundings, climate, access to the site,

availability of drawings and other data with the Authority, Applicable Laws and regulations or any other matter considered relevant by them.

2.7 Acknowledgement by Applicant

2.7.1 It shall be deemed that by submitting the Proposal, the Applicant has:

- (a) made a complete and careful examination of the RFP;
- (b) received all relevant information requested from the Authority;
- (c) acknowledged and accepted the risk of inadequacy, error or mistake in the information provided in the RFP or furnished by or on behalf of the Authority or relating to any of the matters referred to in Clause 2.6 above;
- (d) satisfied itself about all matters, things and information, including matters referred to in Clause 2.6 herein above, necessary and required for submitting an informed Application and performance of all of its obligations there under;
- (e) acknowledged that it does not have a Conflict of Interest; and
- (f) agreed to be bound by the undertaking provided by it under and in terms hereof.

2.7.2 The Authority shall not be liable for any omission, mistake or error on the part of the Applicant in respect of any of the above or on account of any matter or thing arising out of or concerning or relating to RFP or the Selection Process, including any error or mistake therein or in any information or data given by the Authority.

2.8 Right to reject any or all Proposals

2.8.1 Notwithstanding anything contained in this RFP, the Authority reserves the right to accept or reject any Proposal and to annul the Selection Process and reject all Proposals, at any time without any liability or any obligation for such acceptance, rejection or annulment, and without assigning any reasons thereof.

2.8.2 Without prejudice to the generality of Clause 2.8.1, the Authority reserves the right to reject any Proposal if:

- (a) at any time, a material misrepresentation is made or uncovered, or

- (b) the Applicant does not provide, within the time specified by the Authority, the supplemental information sought by the Authority for evaluation of the Proposal.

Misrepresentation/ improper response by the Applicant may lead to the disqualification of the Applicant. If the Applicant is the Lead Member of a consortium, then the entire consortium may be disqualified / rejected. If such disqualification / rejection occurs after the Proposals have been opened and the highest ranking Applicant gets disqualified / rejected, then the Authority reserves the right to consider the next best Applicant, or take any other measure as may be deemed fit in the sole discretion of the Authority, including annulment of the Selection Process.

B. DOCUMENTS

2.9 Contents of the RFP

- 2.9.1 This RFP comprises the Disclaimer set forth hereinabove, the contents as listed below and will additionally include any Addendum / Amendment issued in accordance with Clause 2.11:

Request for Proposal

- 1 Introduction
- 2 Instructions to Applicants
- 3 Criteria for Evaluation
- 4 Fraud and corrupt practices
- 5 Pre-Proposal Conference
- 6 Miscellaneous

Schedules

- 1 **Terms of Reference**
- 2 **Form of Agreement**

Annex-1: Terms of Reference

Annex-2: Deployment of Personnel

Annex-3: Estimate of Personnel Costs

Annex-4: Approved Sub-Consultant(s)

Annex-5: Cost of Services

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3 Guidance Note on Conflict of Interest

Appendices

Appendix-I: Technical Proposal

Form 1: Letter of Proposal

Form 2: Particulars of the Applicant

Form 3: Statement of Legal Capacity

Form 4: Power of Attorney

Form 5: Financial Capacity of the Applicant

Form 6: Particulars of Key Personnel

Form 7: Proposed Methodology and Work Plan

Form 8: Experience of the Applicant

Form 9 : Experience of Key Personnel

Form 10: Eligible Assignments of the Applicant

Form 11: Eligible Assignments of Key Personnel

Form 12: CV of Key Personnel

Form 13: Deployment of Personnel

Form 14: Proposal for Sub-Consultant(s)

Appendix–II: Financial Proposal

Form 1: Covering Letter

Form 2: Financial Proposal

Appendix–III: Pre-feasibility report and Region wise consumption details of Railway load centers.

2.10 Clarifications

- 2.10.1 Applicants requiring any clarification on the RFP may send their queries to the Authority in writing before the date mentioned in the Schedule of Selection Process at Clause 1.8. The envelopes shall clearly bear the following identification:

"Queries/Request for Additional Information concerning RFP"

The Authority shall endeavour to respond to the queries within the period specified therein but not later than 7 (seven) days prior to the Proposal Due Date. The responses will be sent by fax or e-mail. The Authority will post the reply to all such queries on the Official Website and copies thereof will also be circulated to all Applicants who have purchased the RFP document without identifying the source of queries.

- 2.10.2 The Authority reserves the right not to respond to any questions or provide any clarifications, in its sole discretion, and nothing in this Clause 2.10 shall be construed as obliging the Authority to respond to any question or to provide any clarification.

2.11 Amendment of RFP

- 2.11.1 At any time prior to the deadline for submission of Proposal, the Authority may, for any reason, whether at its own initiative or in response to clarifications requested by an Applicant, modify the RFP document by the issuance of Addendum/ Amendment and posting it on the Official Website and by conveying the same to the prospective Applicants (who have purchased the RFP document) by fax or e-mail.
- 2.11.2 All such amendments will be notified in writing through fax or e-mail to all Applicants who have purchased the RFP document. The amendments will also be posted on the Official Website along with the revised RFP containing the amendments and will be binding on all Applicants.

- 2.11.3 In order to afford the Applicants a reasonable time for taking an amendment into account, or for any other reason, the Authority may, in its sole discretion, extend the Proposal Due Date.

C. PREPARATION AND SUBMISSION OF PROPOSAL

2.12 Language

The Proposal with all accompanying documents (the “**Documents**”) and all communications in relation to or concerning the Selection Process shall be in English language and strictly on the forms provided in this RFP. No supporting document or printed literature shall be submitted with the Proposal unless specifically asked for and in case any of these Documents is in another language, it must be accompanied by an accurate translation of the relevant passages in English, in which case, for all purposes of interpretation of the Proposal, the translation in English shall prevail.

2.13 Format and signing of Proposal

- 2.13.1 The Applicant shall provide all the information sought under this RFP. The Authority would evaluate only those Proposals that are received in the specified forms and complete in all respects.
- 2.13.2 The Applicant shall prepare one original set of the Proposal (together with originals/ copies of Documents required to be submitted along therewith pursuant to this RFP) and clearly marked “**ORIGINAL**”. In addition, the Applicant shall submit 2 (two) copies of the Proposal, along with Documents, marked “**COPY**”. In the event of any discrepancy between the original and its copies, the original shall prevail.
- 2.13.3 The Proposal and its copy shall be typed or written in indelible ink and signed by the authorized signatory of the Applicant who shall initial each page, in blue ink. In case of printed and published Documents, only the cover shall be initialled. All the alterations, omissions, additions, or any other amendments made to the Proposal shall be initialled by the person(s) signing the Proposal. The Proposals must be properly signed by the authorised representative (the “**Authorised Representative**”) as detailed below:

- (a) by the proprietor, in case of a proprietary firm; or
- (b) by a partner, in case of a partnership firm and/or a limited liability partnership; or
- (c) by a duly authorized person holding the Power of Attorney, in case of a Limited Company or a corporation; or
- (d) by the authorized representative of the Lead Member, in case of consortium.

A copy of the Power of Attorney certified under the hands of a partner or director of the Applicant and notarised by a notary public in the form specified in Appendix-I (Form-4) shall accompany the Proposal.

2.13.4 Applicants should note the Proposal Due Date, as specified in Clause 1.8, for submission of Proposals. Except as specifically provided in this RFP, no supplementary material will be entertained by the Authority, and that evaluation will be carried out only on the basis of Documents received by the closing time of Proposal Due Date as specified in Clause 2.17.1. Applicants will ordinarily not be asked to provide additional material information or documents subsequent to the date of submission, and unsolicited material if submitted will be summarily rejected. For the avoidance of doubt, the Authority reserves the right to seek clarifications under and in accordance with the provisions of Clause 2.23.

2.14 Technical Proposal

2.14.1 Applicants shall submit the technical proposal in the formats at Appendix-I (the “**Technical Proposal**”).

2.14.2 While submitting the Technical Proposal, the Applicant shall, in particular, ensure that:

- (a) The Bid Security, and the demand draft or receipt thereof, towards cost of RFP, as specified in Clause 1.4 is provided;
- (b) all forms are submitted in the prescribed formats and signed by the prescribed signatories;
- (c) Power of Attorney, if applicable, is executed as per Applicable Laws;
- (d) CVs of all Professional Personnel have been included;

- (e) Key Personnel have been proposed only if they meet the Conditions of Eligibility laid down at Clause 2.2.2 (D) of the RFP;
- (f) no alternative proposal for any Key Personnel is being made and only one CV for each position has been furnished;
- (g) the CVs have been recently signed and dated in blue ink by the respective Personnel and countersigned by the Applicant. Photocopy or unsigned / countersigned CVs shall be rejected;
- (h) the CVs shall contain an undertaking from the respective Key Personnel about his/her availability for the duration specified in the RFP;
- (i) Professional Personnel proposed have good working knowledge of English language;
- (j) Key Personnel would be available for the period indicated in the TOR;
- (k) no Key Personnel should have attained the age of 75 (seventy five) years at the time of submitting the proposal; and
- (l) the proposal is responsive in terms of Clause 2.21.3.

2.14.3 Failure to comply with the requirements spelt out in this Clause 2.14 shall make the Proposal liable to be rejected.

2.14.4 If an individual Key Personnel makes a false averment regarding his qualification, experience or other particulars, or his commitment regarding availability for the Project is not fulfilled at any stage after signing of the Agreement, he shall be liable to be debarred for any future assignment of the Authority for a period of 5 (five) years. The award of this Consultancy to the Applicant may also be liable to cancellation in such an event.

2.14.5 The Technical Proposal shall not include any financial information relating to the Financial Proposal.

2.14.6 The proposed team shall be composed of experts and specialists (the “**Professional Personnel**”) in their respective areas of expertise and managerial/support staff (the “**Support Personnel**”) such that the Consultant should be able to complete the Consultancy within the specified time schedule. The Key Personnel specified in Clause 2.1.4 shall be included in the proposed team of Professional Personnel. Other competent and experienced Professional Personnel in the relevant areas of expertise must be added as required for

successful completion of this Consultancy. The CV of each such Professional Personnel, if any, should also be submitted in the format at Form-12 of Appendix-I.

- 2.14.7 An Applicant may, if it considers necessary, propose suitable Sub-Consultants in specific areas of expertise. Credentials of such firms should be submitted in Form-14 of Appendix-I. A sub consultant however shall not be a substitute for any Key Personnel.
- 2.14.8 The Authority reserves the right to verify all statements, information and documents, submitted by the Applicant in response to the RFP. Any such verification or the lack of such verification by the Authority to undertake such verification shall not relieve the Applicant of its obligations or liabilities hereunder nor will it affect any rights of the Authority there under.
- 2.14.9 In case it is found during the evaluation or at any time before signing of the Agreement or after its execution and during the period of subsistence thereof, that one or more of the eligibility conditions have not been met by the Applicant or the Applicant has made material misrepresentation or has given any materially incorrect or false information, the Applicant shall be disqualified forthwith if not yet appointed as the Consultant either by issue of the LOA or entering into of the Agreement, and if the Selected Applicant has already been issued the LOA or has entered into the Agreement, as the case may be, the same shall, notwithstanding anything to the contrary contained therein or in this RFP, be liable to be terminated, by a communication in writing by the Authority without the Authority being liable in any manner whatsoever to the Applicant or Consultant, as the case may be.

In such an event, the Authority shall forfeit the Bid Security, without prejudice to any other right or remedy that may be available to the Authority.

2.15 Financial Proposal

- 2.15.1 Applicants shall submit the financial proposal in the formats at Appendix-II (the “**Financial Proposal**”) clearly indicating the total cost of the Consultancy (Form-2 of Appendix-II) in both figures and words, in Indian Rupees only, and signed by the Applicant’s Authorised Representative. In the event of any difference between figures and words, the amount indicated in words shall prevail. In the event of a difference between the arithmetic total and the total shown in the Financial Proposal, the lower of the two shall prevail.

2.15.2 While submitting the Financial Proposal, the Applicant shall ensure the following:

- (i) All the costs associated with the assignment shall be included in the Financial Proposal. These shall normally cover remuneration for all the Personnel, accommodation, air fare, equipment, printing of documents, surveys, geo-technical investigations, EIA and other site specific studies etc. The total amount indicated in the Financial Proposal shall be without any condition attached or subject to any assumption, and shall be final and binding. In case any assumption or condition is indicated in the Financial Proposal, it shall be considered non-responsive and liable to be rejected.
- (ii) The Financial Proposal shall take into account all expenses and tax liabilities. For the avoidance of doubt, it is clarified that all taxes shall be deemed to be included in the costs shown in the Financial Proposal. Further, all payments shall be subject to deduction of taxes at source as per Applicable Laws.
- (iii) Costs shall be expressed in INR.

2.16 Submission of Proposal

2.16.1 The Applicants shall submit the Proposal in hard bound form with all pages numbered serially and by giving an index of submissions. Each page of the submission shall be initialled by the Authorized Representative of the Applicant as per the terms of the RFP. In case the proposal is submitted on the document down loaded from Official Website, the Applicant shall be responsible for its accuracy and correctness as per the version uploaded by the Authority and shall ensure that there are no changes caused in the content of the downloaded document. In case of any discrepancy between the downloaded or photocopied version of the RFP and the original RFP issued by the Authority, the latter shall prevail.

2.16.2 The Proposal will be sealed in an outer envelope which will bear the address of the Authority, RFP Notice number, Consultancy name as indicated at Clauses 1.9.1 and 1.9.2 and the name and address of the Applicant. It shall bear on top, the following:

“Do not open, except in presence of the Authorised Person of the Authority”

If the envelope is not sealed and marked as instructed above, the Authority assumes no responsibility for the misplacement or premature opening of the contents of the Proposal submitted and consequent losses, if any, suffered by the Applicant.

2.16.3 The aforesaid outer envelope will contain two separate sealed envelopes, one clearly marked ‘**Technical Proposal**’ and the other clearly marked ‘**Financial Proposal**’. The envelope marked “Technical Proposal” shall contain:

- (i) Application in the prescribed format (Form-1 of Appendix-I) along with Forms 2 to 14 of Appendix-I and supporting documents; and
- (ii) Copy of Memorandum and Articles of Association, if the Applicant/Consortium Member is a corporate body, and if a partnership then a copy of its partnership deed;
- (iii) Copies of Applicant’s duly audited balance sheet for the preceding three years; and
- (iv) Bid security as specified in Clause 2.20.1

The envelope marked “Financial Proposal” shall contain the financial proposal in the prescribed format (Forms 1& 2 of Appendix-II).

2.16.4 The Technical Proposal and Financial Proposal shall be typed or written in indelible ink and signed by the Authorized Representative of the Applicant. All pages of the original Technical Proposal and Financial Proposal must be numbered and initialed by the person or persons signing the Proposal.

2.16.5 The completed Proposal must be delivered on or before the specified time on Proposal Due Date. Proposals submitted by fax, telex, telegram or e-mail shall not be entertained.

2.16.6 The Proposal shall be made in the Forms specified in this RFP. Any attachment to such Forms must be provided on separate sheets of paper and only information that is directly relevant should be provided. This may include photocopies of the relevant pages of printed documents. No separate documents like printed annual statements, company brochures, copy of contracts etc. will be entertained.

- 2.16.7 The rates quoted shall be firm throughout the period of performance of the assignment upto and including acceptance of the all deliverables specified as per Clause- 4 of Schedule -1 by the Authority and discharge of all obligations of the Consultant under the Agreement.

2.17 Proposal Due Date

- 2.17.1 Proposal should be submitted at or before 1100 hrs on the Proposal Due Date specified at Clause 1.8 at the address provided in Clause 1.9 in the manner and form as detailed in this RFP. A receipt thereof should be obtained from the person specified therein.
- 2.17.2 The Authority may, in its sole discretion, extend the Proposal Due Date by issuing an Addendum in accordance with Clause 2.11 uniformly for all Applicants.

2.18 Late Proposals

Proposals received by the Authority after the specified time on Proposal Due Date shall not be eligible for consideration and shall be summarily rejected

2.19 Modification/ substitution/ withdrawal of Proposals

- 2.19.1 The Applicant may modify, substitute, or withdraw its Proposal after submission, provided that written notice of the modification, substitution, or withdrawal is received by the Authority prior to Proposal Due Date. No Proposal shall be modified, substituted, or withdrawn by the Applicant on or after the Proposal Due Date.
- 2.19.2 The modification, substitution, or withdrawal notice shall be prepared, sealed, marked, and delivered in accordance with Clause 2.16, with the envelopes being additionally marked “MODIFICATION”, “SUBSTITUTION” or “WITHDRAWAL”, as appropriate.
- 2.19.3 Any alteration / modification in the Proposal or additional information or material supplied subsequent to the Proposal Due Date, unless the same has been expressly sought for by the Authority, shall be disregarded.

2.20 Bid Security

- 2.20.1 The Applicant shall furnish as part of its Proposal, a bid security of Rs. 2,00,000 (two lakh) in the form of a Demand Draft issued by one of the Nationalized/ Scheduled Banks in India in favour of the Pay & Account Officer, Railway

Board, payable at New Delhi or a deposit receipt, hypothecated in favour of the Pay & Account Officer, Railway Board, issued by one of the Nationalized/ Scheduled Banks in India (the “**Bid Security**”), returnable not later than 30 (thirty) days from PDD except in case of two highest ranked Applicant as required in Clause 2.24.1. In the event that the first ranked Applicant commences the assignment as required in Clause 2.29, the second ranked Applicant, who has been kept in reserve, shall be returned its Bid security forthwith, but in no case not later than 120 days from PDD. The selected Applicant’s Bid security shall be returned, upon the Applicant signing the Agreement and completing the Deliverables assigned to it for the first 2 (two) months of the Consultancy in accordance with the provisions thereof.

2.20.2 Any Bid not accompanied by the Bid Security shall be rejected by the Authority as non-responsive.

2.20.3 The Authority shall not be liable to pay any interest on the Bid Security and the same shall be interest free.

2.20.4 The Applicant, by submitting its Application pursuant to this RFP, shall be deemed to have acknowledged that without prejudice to the Authority’s any other right or remedy hereunder or in law or otherwise, the Bid Security shall be forfeited by the Authority in regard to the RFP including the consideration and evaluation of the Proposal under the following conditions:

- (a) If an Applicant submits a non-responsive Proposal;
- (b) If an Applicant engages in any of the Prohibited Practices specified in Clause 4 of this RFP;
- (c) If an Applicant withdraws its Proposal during the period of its validity as specified in this RFP and as extended by the Applicant from time to time;
- (d) In the case of the Selected Applicant, if the Applicant fails to reconfirm its commitments during negotiations as required vide Clause 2.24.1;
- (e) In the case of a Selected Applicant, if the Applicant fails to sign the Agreement or commence the assignment as specified in Clauses 2.28 and 2.29 respectively; or
- (f) If the Applicant is found to have a Conflict of Interest as specified in Clause 2.3.

D. EVALUATION PROCESS

2.21 Evaluation of Proposals

2.21.1 The Authority shall open the Proposals at 1130 hours on the Proposal Due Date, at the place specified in Clause 1.9.1 and in the presence of the Applicants who choose to attend. The envelopes marked “Technical Proposal” shall be opened first. The envelopes marked “Financial Proposal” shall be kept sealed for opening at a later date.

2.21.2 Proposals for which a notice of withdrawal has been submitted in accordance with Clause 2.19 shall not be opened.

2.21.3 Prior to evaluation of Proposals, Authority will determine whether each Proposal is responsive to the requirements of the RFP. The Authority may, in its sole discretion, reject any Proposal that is not responsive hereunder. A Proposal shall be considered responsive only if:

- (a) the Technical Proposal is received in the form specified at Appendix-I;
- (b) it is received by the Proposal Due Date including any extension thereof pursuant to Clause 2.17;
- (c) it is accompanied by the Bid Security as specified in Clause 2.20.1 , and the demand draft or receipt thereof, towards cost of RFP, as specified in Clause 1.4.
- (d) it is signed, sealed and marked as stipulated in Clauses 2.13 and 2.16;
- (e) it is accompanied by the Power of Attorney as specified in Clause 2.2.4;
- (f) it contains all the information (complete in all respects) as requested in the RFP;
- (g) it does not contain any condition or qualification; and
- (h) it is not non-responsive in terms hereof.

2.21.4 The Authority reserves the right to reject any Proposal which is non-responsive and no request for alteration, modification, substitution or withdrawal shall be entertained by Authority in respect of such Proposals.

- 2.21.5 The Authority shall subsequently examine and evaluate Proposals in accordance with the Selection Process specified at Clause 1.6 and the criteria set out in Section 3 of this RFP.
- 2.21.6 After the technical evaluation, Authority shall prepare a list of pre-qualified and shortlisted Applicants in terms of Clause 3.2 for opening of their Financial Proposals. A date, time and venue will be notified to all Applicants for announcing the result of evaluation and opening of Financial Proposals. Before opening of the Financial Proposals, the list of pre-qualified and shortlisted Applicants along with their Technical Score will be read out. The opening of Financial Proposals shall be done in presence of respective representatives of Applicants who choose to be present. The Authority will not entertain any query or clarification from Applicants who fail to qualify at any stage of the Selection Process. The financial evaluation and final ranking of the Proposals shall be carried out in terms of Clauses 3.3 and 3.4.
- 2.21.7 Applicants are advised that Selection shall be entirely at the discretion of the Authority. Applicants shall be deemed to have understood and agreed that the Authority shall not be required to provide any explanation or justification in respect of any aspect of the Selection Process or Selection.
- 2.21.8 Any information contained in the Proposal shall not in any way be construed as binding on the Authority, its agents, successors or assigns, but shall be binding against the Applicant if the Consultancy is subsequently awarded to it.

2.22 Confidentiality

Information relating to the examination, clarification, evaluation, and recommendation for the selection of Applicants shall not be disclosed to any person who is not officially concerned with the process or is not a retained professional adviser advising the Authority in relation to matters arising out of, or concerning the Selection Process. The Authority shall treat all information, submitted as part of the Proposal, in confidence and shall require all those who have access to such material to treat the same in confidence. The Authority may not divulge any such information unless it is directed to do so by any statutory entity that has the power under law to require its disclosure or is to enforce or assert any right or privilege of the statutory entity and/or Authority.

2.23 Clarifications

- 2.23.1 To facilitate evaluation of Proposals, Authority may, at its sole discretion, seek clarifications from any Applicant regarding its Proposal. Such clarification(s) shall be provided within the time specified by the Authority for this purpose. Any request for clarification(s) and all clarification(s) in response thereto shall be in writing.
- 2.23.2 If an Applicant does not provide clarifications sought under Clause 2.23.1 above within the specified time, its Proposal shall be liable to be rejected. In case the Proposal is not rejected, Authority may proceed to evaluate the Proposal by construing the particulars requiring clarification to the best of its understanding, and the Applicant shall be barred from subsequently questioning such interpretation of the Authority.

E. APPOINTMENT OF CONSULTANT

2.24 Negotiations

- 2.24.1 The first ranked Applicant (the “**Selected Applicant**”) may, if necessary, be invited for negotiations. The negotiations shall generally not be for reducing the price of the Proposal, but will be for re-confirming the obligations of the Consultant under this RFP. Issues such as deployment of Key Personnel, understanding of the RFP, methodology and quality of the work plan shall be discussed during negotiations. In case the selected Applicant fails to reconfirm its commitment, the Authority reserves the right to designate the next ranked Applicant as the selected Applicant and invite it for negotiations.
- 2.24.2 The Authority will examine the CVs of all other Professional Personnel and those not found suitable shall be replaced by the Applicant to the satisfaction of the Authority.
- 2.24.3 The Authority will examine the credentials of all Sub-Consultants proposed for this Consultancy and those not found suitable shall be replaced by the Applicant to the satisfaction of the Authority.

2.25 Substitution of Key Personnel

- 2.25.1 The Authority will not normally consider any request of the Selected Applicant for substitution of Key Personnel as the ranking of the Applicant is based on the evaluation of Key Personnel and any change therein may upset the ranking. Substitution will, however, be permitted if the Key Personnel is not available

for reasons of any incapacity or due to health, subject to equally or better qualified and experienced personnel being provided to the satisfaction of the Authority.

- 2.25.2 The Authority expects all the Key Personnel to be available during implementation of the Agreement. The Authority will not consider substitution of Key Personnel except for reasons of any incapacity or due to health. Such substitution shall ordinarily be limited to one Key Personnel subject to equally or better qualified and experienced personnel being provided to the satisfaction of the Authority. As a condition to such substitution, a sum equal to 5% (five per cent) of the total contract value shall be deducted from the payments due to the Consultant. In the case of a second substitution hereunder, such deduction shall be 10% (Ten per cent) of the total contract value. Any further substitution may lead to disqualification of the Applicant or termination of the Agreement.
- 2.25.3 Substitution of the Team Leader will not normally be considered and may lead to disqualification of the Applicant or termination of the Agreement.
- 2.25.4 Without prejudice to the provisions of above Clause in an event of death of any Key Personnel, the Applicant shall be entitled to substitute such Key Personnel with equally or better qualified and experienced personnel without reduction in the remuneration as specified in Clause 2.25.2.

2.26 Indemnity

The Consultant shall, subject to the provisions of the Agreement, indemnify the Authority for an amount not exceeding 3 (three) times the value of the Agreement for any direct loss or damage that is caused due to any deficiency in services.

2.27 Award of Consultancy

After selection, a Letter of Award (the “LOA”) shall be issued, in duplicate, by the Authority to the Selected Applicant and the Selected Applicant shall, within 7 (seven) days of the receipt of the LOA, sign and return the duplicate copy of the LOA in acknowledgement thereof. In the event the duplicate copy of the LOA duly signed by the Selected Applicant is not received by the stipulated date, Authority may, unless it consents to extension of time for submission thereof, appropriate the Bid Security of such Applicant will be forfeited and the next eligible Applicant may be considered.

2.28 Execution of Agreement

After acknowledgement of the LOA as aforesaid by the Selected Applicant, it shall execute the Agreement within 15 (fifteen) days of the acknowledgment of the LOA by the Selected Applicant. The Selected Applicant shall not be entitled to seek any deviation in the Agreement.

2.29 Commencement of assignment

The Consultant shall commence the Services at the Project site within 7 (seven) days of the date of the Agreement, or such other date as may be mutually agreed. If the Consultant fails to either sign the Agreement as specified in Clause 2.28 or commence the assignment as specified herein, the Authority may invite the second ranked Applicant for negotiations, in such an event, the Bid Security of the first ranked Applicant shall be forfeited and appropriated in accordance with the provisions of Clause 2.20.4.

2.30 Proprietary data

Subject to the provisions of Clause 2.22, all documents and other information provided by the Authority or submitted by an Applicant to the Authority shall remain or become the property of the Authority. Applicants and the Consultant, as the case may be, are to treat all information as strictly confidential. The Authority will not return any Proposal or any information related thereto. All information collected, analysed, processed or in whatever manner provided by the Consultant to the Authority in relation to the Consultancy shall be the property of the Authority.

3. CRITERIA FOR EVALUATION

3.1 Evaluation of Technical Proposals

3.1.1 In the first stage, the Technical Proposal will be evaluated on the basis of Applicant's experience, its understanding of TOR, proposed methodology and Work Plan, and the experience of Key Personnel.

3.1.2 Only those Applicants whose Technical Proposals score 70 marks or more out of 100 shall qualify for further consideration, and shall be ranked from highest to the lowest on the basis of their technical score (S_T).

3.1.3 The scoring criteria to be used for technical evaluation shall be as follows:

Item Code	Criteria	Marks*
1.	Applicant's Relevant Experience	
1a	<i>Technical Capacity of the Applicant</i>	
1a(i)	Experience of Detailed Project Report (DPR)	10
1a(ii)	Experience of Regulatory frame work for tariff determination	10
1b	Financial Capacity of the Applicant	20
2.	Relevant Experience of the Key Personnel (Total)	
2a	Thermal Power Plant Expert	20
2b	Thermal Power Project Development Expert	20
2c	Legal Expert	5
2d	Commercial Expert	5
2e	Financial Consultant	5
2f	Environmental Consultant	5
Grand Total		100

* While awarding marks for the number of Eligible Projects, the Applicant or Key Personnel, as the case may be, that has executed the highest number of Eligible Assignments shall be entitled to the maximum score for the respective category and all other competing

Applicants or respective Key Personnel, as the case may be, shall be entitled to a proportionate score. For the avoidance of doubt and by way of illustration, if an Applicant ‘A’ has executed 4 Eligible Assignments and the Applicants ‘B’ and Applicants ‘C’ have executed 2 and 1 Eligible Assignments respectively then the Applicant ‘A’ will be awarded 100% marks, the Applicant ‘B’ will be awarded 50% marks and the Applicant ‘C’ will be awarded 25% marks. Similarly proportionate marks will be assigned for all other criteria including Financial Capacity of Applicant.

3.1.4 Eligible Assignments

For the purposes of determining Conditions of Eligibility and for evaluating the Proposals under this RFP, successful execution of consultancy assignments , over the past 10 (ten) years, preceding the Proposal Due Date, in respect of the following shall be deemed as relevant eligible assignments of the Applicant or its Associate applicant (the “**Eligible Assignments**”):

- (a) (i) In the case of experience of Detailed Project Report ‘DPR’ Applicant must have associated as consultant for preparation of **Detailed Project Report** of coal based thermal power project each of minimum 200 MW capacity in India.

- (ii) In case of experience of Regulatory frame work for tariff determination, Applicant must have assisted in the assignments related to generating/distribution/transmission companies/ regulatory commissions on tariff related issues in India.

- (b) **In case of Thermal Power Expert (Team Leader):**

Experience as a project in-charge for setting up minimum 200 MW capacity power plant or led a advisory team for bid process management for tariff based competitive bidding for minimum 200 MW in India.

- (c) **In case of Thermal Power Project development Expert:**

Experience in co-coordinating Detailed Project Report for setting up of coal based thermal power plant of minimum 200 MW capacity in India.

(d) In case of Commercial Expert .

Experience of Bid process management of setting up minimum 200 MW power plant as a competitive tariff based bidding in India.

(e) In case of Financial Expert.

Experience of Bid process management and financial evaluation for setting up minimum 200 MW power plant as a competitive tariff based bidding in India or assisted in a minimum of two assignments for generating/distribution/transmission companies/regulatory commissions on tariff related issues in India.

(f) In the case of Legal Expert :

Experience of drafting of power purchase agreement of transaction of 200 MW power between any generating company or assisted in regulatory affairs with regard of tariff setting of distribution company/generating companies, filing petitions distribution company or assisted in Bid process management of setting up a thermal power plant of minimum 200 MW capacity in India.

(g) In case of Environmental Expert.

Experience in co-ordinating Environment Impact Analysis or worked as a sole expert for setting up thermal power plant of minimum 200 MW capacity.

3.2 Short-listing of Applicants

Of the Applicants ranked as aforesaid, not more than five shall be pre-qualified and short-listed for financial evaluation in the second stage. However, if the number of such pre-qualified Applicants is less than two, Authority may, in its sole discretion, pre-qualify the Applicant(s) whose technical score is less than 70 points even if such Applicant(s) do(es) not qualify in terms of Clause 3.1.2; provided that in such an event, the total number of pre-qualified and short-listed Applicants shall not exceed two .

3.3 Evaluation of Financial Proposal

3.3.1 In the second stage, the financial evaluation will be carried out as per this Clause 3.3. Each Financial Proposal will be assigned a financial score (S_F).

- 3.3.2 For financial evaluation, the total cost indicated in the Financial Proposal will be considered.
- 3.3.3 The Authority will determine whether the Financial Proposals are complete, unqualified and unconditional. The cost indicated in the Financial Proposal shall be deemed as final and reflecting the total cost of services. Omissions, if any, in costing any item shall not entitle the firm to be compensated and the liability to fulfill its obligations as per the TOR within the total quoted price shall be that of the Consultant. The lowest Financial Proposal (F_M) will be given a financial score (S_F) of 100 points. The financial scores of other proposals will be computed as follows:

$$S_F = 100 \times F_M / F$$

(F = amount of Financial Proposal)

3.4 Combined and final evaluation

- 3.4.1 Proposals will finally be ranked according to their combined technical (S_T) and financial (S_F) scores as follows:

$$S = S_T \times T_w + S_F \times F_w$$

Where S is the combined score, and T_w and F_w are weights assigned to Technical Proposal and Financial Proposal that shall be 0.70 and 0.30 respectively.

- 3.4.2 The Selected Applicant shall be the first ranked Applicant (having the highest combined score). The second ranked Applicant shall be kept in reserve and may be invited for negotiations in case the first ranked Applicant withdraws, or fails to comply with the requirements specified in Clause 2.24, 2.28 and 2.29, as the case may be.

4. FRAUD AND CORRUPT PRACTICES

- 4.1 The Applicants and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Selection Process. Notwithstanding anything to the contrary contained in this RFP, the Authority shall reject a Proposal without being liable in any manner whatsoever to the Applicant, if it determines that the Applicant has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice (collectively the “**Prohibited Practices**”) in the Selection Process. In such an event, the Authority shall, without prejudice to its any other rights or remedies, forfeit and appropriate the Bid Security or Performance Security, as the case may be, as mutually agreed genuine pre-estimated compensation and damages payable to the Authority for, *inter alia*, time, cost and effort of the Authority, in regard to the RFP, including consideration and evaluation of such Applicant’s Proposal.
- 4.2 Without prejudice to the rights of the Authority under Clause 4.1 hereinabove and the rights and remedies which the Authority may have under the LOA or the Agreement, if an Applicant or Consultant, as the case may be, is found by the Authority to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the Selection Process, or after the issue of the LOA or the execution of the Agreement, such Applicant or Consultant shall not be eligible to participate in any tender or RFP issued by the Authority during a period of 2 (two) years from the date such Applicant or Consultant, as the case may be, is found by the Authority to have directly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as the case may be.
- 4.3 For the purposes of this Section, the following terms shall have the meaning hereinafter respectively assigned to them:
- (a) “**corrupt practice**” means (i) the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of any person connected with the Selection Process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the Authority who is or

has been associated in any manner, directly or indirectly with the Selection Process or the LOA or has dealt with matters concerning the Agreement or arising therefrom, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the Authority, shall be deemed to constitute influencing the actions of a person connected with the Selection Process); or (ii) save as provided herein, engaging in any manner whatsoever, whether during the Selection Process or after the issue of the LOA or after the execution of the Agreement, as the case may be, any person in respect of any matter relating to the Project or the LOA or the Agreement, who at any time has been or is a legal, financial or technical consultant/ adviser of the Authority in relation to any matter concerning the Project;

- (b) “**fraudulent practice**” means a misrepresentation or omission of facts or disclosure of incomplete facts, in order to influence the Selection Process;
- (c) “**coercive practice**” means impairing or harming or threatening to impair or harm, directly or indirectly, any persons or property to influence any person’s participation or action in the Selection Process;
- (d) “**undesirable practice**” means (i) establishing contact with any person connected with or employed or engaged by the Authority with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Selection Process; or (ii) having a Conflict of Interest; and
- (e) “**restrictive practice**” means forming a cartel or arriving at any understanding or arrangement among Applicants with the objective of restricting or manipulating a full and fair competition in the Selection Process.

5.0 PRE-PROPOSAL CONFERENCE

- 5.1 Pre-Proposal Conference of the Applicants for this consultancy contract shall be convened at the designated date, time and place. Only those Applicants, who have purchased the RFP document or downloaded the same from the Official Website for the Authority, shall be allowed to participate in the Pre-Proposal Conference. A maximum of two representatives of each Applicant shall be allowed to participate on production of an authority letter from the Applicant.
- 5.2 During the course of Pre-Proposal Conference, the Applicants will be free to seek clarifications and make suggestions for consideration of the Authority. The Authority shall endeavour to provide clarifications and such further information as it may, in its sole discretion, consider appropriate for facilitating a fair, transparent and competitive Selection Process.

6.0 MISCELLANEOUS

- 6.1** The Selection Process shall be governed by, and construed in accordance with, the laws of India and the Courts at Delhi shall have exclusive jurisdiction over all disputes arising under, pursuant to and/or in connection with the Selection Process.
- 6.2** The Authority, in its sole discretion and without incurring any obligation or liability, reserves the right, at any time, to:
- (a) suspend and/or cancel the Selection Process and/or amend and/or supplement the Selection Process or modify the dates or other terms and conditions relating thereto;
 - (b) consult with any Applicant in order to receive clarification or further information;
 - (c) retain any information and/or evidence submitted to the Authority by, on behalf of and/or in relation to any Applicant; and/or
 - (d) independently verify, disqualify, reject and/or accept any and all submissions or other information and/or evidence submitted by or on behalf of any Applicant.
- 6.3** It shall be deemed that by submitting the Proposal, the Applicant agrees and releases the Authority, its employees, agents and advisers, irrevocably, unconditionally, fully and finally from any and all liability for claims, losses, damages, costs, expenses or liabilities in any way related to or arising from the exercise of any rights and/or performance of any obligations hereunder, pursuant hereto and/or in connection herewith and waives any and all rights and/or claims it may have in this respect, whether actual or contingent, whether present or future.
- 6.4** All documents and other information supplied by the Authority or submitted by an Applicant shall remain or become, as the case may be, the property of the Authority. The Authority will not return any submissions made hereunder. Applicants are required to treat all such documents and information as strictly confidential.
- 6.5** The Authority reserves the right to make inquiries with any of the clients listed by the Applicants in their previous experience record.

SCHEDULES

SCHEDULE – 1

SCHEDULE – 1

TERMS OF REFERENCE

General:

1.1 The Authority seeks the services of qualified firms for preparing a detailed project report, environment impact analysis (EIA), site specific studies & investigations and assisting Authority in for seeking mandatory clearances needed for setting up power plant of 1320 MW capacity at Adra.

1.2 The Consultant shall also be responsible for assisting the Authority, in preparation of Bid Documents including preparation of the relevant Power Purchase Agreement. The Consultant shall assist the Authority by furnishing clarification as required for the financial appraisal and legal scrutiny of the Project and bid document.

1.3 The Consultant shall also participate in the pre-bid conference with the bidders of the Project and assist the Authority in clarifying the technical aspects arising from the Bid document including the Detailed Project Report.

1.4 The legal, technical and financial expert will also assist the Authority for coordinating with appropriate Regulatory body/utilities for wheeling and evacuation of power from Adra Power Plant to various load centres of Authority located in Western, Eastern, Southern and Northern regions. The technical and legal experts will also assist in negotiating necessary wheeling and banking arrangement with distribution Companies in different States.

1.5 The legal and financial expert will also assist the Authority in scrutinizing and drafting Article of Association, Joint Venture Agreement, Memorandum of Association, and formation of Special Purpose Vehicle for setting up power plant.

2.0 Objective

The objective of this Consultancy is to prepare Detailed Project Report and assist the authority for various requirement as outlined in para 1.1 to 1.5 above.

2.1 Ministry of Railway proposes to set up **1320 MW Thermal power plant at Adra, West Bengal on competitive bidding**. The Thermal power plant will be designed for generation of 1320 MW electrical power continuous for at least 25 years from the date of commissioning.

2.2 Bids on the basis of competitive bidding (CB) will be invited for selection of the bidders who shall be responsible for setting up of 1320MW coal based thermal power plant at Adra, West Bengal Distt. Purulia. The pre feasibility report of this plant is available for Consultant's guidance in Appendix-III

2.3 The Consultant shall draft DPR including all studies and investigations as required for the DPR, co-ordination for agreements for land lease, coal and water linkages and other statutory/other clearances, preparation of RFP/RFQ documents for calling of bids for setting up of the thermal power plant on competitive bidding, assistance in finalization of bids and preparation of legal documents required for entering into contracts with various agencies.

2.4 RFP/RFQ shall be prepared based on the standard RFP/RFQ documents for setting up of power plants on tariff based competitive bidding prepared by Ministry of Power, Government of India and updated with latest relevant instructions thereon. The consultant shall discuss with the Authority all relevant issues and modify the above documents to avail power at most economical rates to Authority.

2.5 The Consultant shall present the possible bidding parameters along with the evaluation criteria and methodology and firm up its recommendations after consultation with the Authority. The bidding and evaluation criteria shall aim at promoting a fair and transparent process of competitive bidding.

3.0 Scope of Services

The services to be performed by the consultant shall include but not be limited as enumerated in the modules listed below:

Module-1

3.1 Inception report and Power Supply scenario.

- Study of existing power supply arrangement of Railways.
- Assessment of mid term and long term/power supply requirement after taking transmission and distribution losses.
- Suggest different models for setting up of coal based 1320 MW thermal power plant at Adra.
- Feasibility analysis of each of the models for indicative cost involved in purchase of power at Railway's load centres with break up of cost payable to different agencies.
- Understanding of project and setting up different milestones for setting up Power Plant, deciding timeline and project outcomes.

Module-2**3.2 Advisory for Setting up of Power Plant.**

- Finalization of Feasibility Report and Detailed Project Report for setting up power plant at Adra after studying pre-feasibility report.
- Mandatory site specific studies covering topographical studies, geotechnical investigation, rapid and detailed EIA, area drainage, ash disposal utilization, metrological and seismological hydrological, water analysis power evacuation, fuel transportation, techno-economic feasibility based on inputs from Module –I of study above.
- Co-ordinate mandatory clearances required for setting up power plant.
- Assisting Authority for tie up of water linkage from appropriate authorities.
- To assist Authority for tie up coal linkage from appropriate authorities.
- Assistance in obtaining Civil Aviation and Military clearances.
- Any other clearances and studies.
- Tie up of other inputs such as environmental clearance consisting of public hearing, State Pollution Control Board and MOEF clearances.
- Land acquisition
- Ash disposal
- Captive block allocation and development of coal mines as long term fuel security for setting power plant.
- Technical requirement of power plant.
- Socio-Economic Survey
- Calculation of FIRR for company and Authority.
- Estimation of levelised cost in different scenario.

Module - 3**3.3 Bid Process Management**

- Preparation of RFQ, and RFP documents including bidding procedure, financial and technical qualification requirements, formats etc.
- Assistance in preparing Notice for Invitation of Tender
- Assistance in pre-bid meeting.
- Assist the Authority in the evaluation of the responses received, organizing conferences at various stages.
- Assist in Bid process Management.
- Assist and advise in carrying out detailed evaluation of the RFQ & RFP received. Preparation of bid evaluation financial model to carry out analysis of bid including sensitivity analysis.
- Assist & advise in selection of successful bidder and participate in negotiations.
- Assistance in short listing and evaluation of the bidders, preparation of Joint Venture Agreement to be entered into between Authority and selected bidders in case of Captive power plant.
- Preparation of Various agreements including the PPA, Escrow Agreement, Land, Lease Agreement, Fuel Supply Agreement, water supply Agreement etc.
- Finalization of MOA and AOA for formation of company
- Process of registration of company

Module-4

- 3.4 Assistance in seeking Planning Commission clearance, Expanded Board for Railways (EBR) approval, Cabinet Committee on Infrastructure (“CCP”) approval, and any other approval, if required.

Module-5**3.5 Assistance in obtaining Regulatory Approval from PGCIL/STUs /CERCs for Open Access**

- Preparation and filing of open access application to PGCIL in accordance with open access regulation of CERCs.
- Preparation and filing of open access application before the relevant STUs for all load points for open access in accordance with guidelines provided by SERCs for all load points for open access.
- Assistance to Railways for filing petitions and making representations before the SERC if open access is not granted by the STU till final order.
- Preparation and submission of replies and additional data, if required, against the queries/objection raised by the SERC/Utility/Consumer representative or other stakeholders.
- Assessment of power evacuation from power plant and transmission system for feeding Railways load point.
- Negotiating wheeling and banking arrangement with SEBs/distribution companies.
- Assist in signing long term BPTA with appropriate CTUs/STUs.

Module-6**3.6 Assistance in Filing Review Petition to the SERC/CERC (Applicable only when Railways are not satisfied with the order of SERC for open access.)**

- Assistance in preparation and filing of review petition to the SERC/CERC.
- Assistance to Railways for presentation before the SERC/CERC till disposal of review petition.
- Preparation and submission of replies and additional data, if required, against SERC/utility/consumer representation or other stakeholder regarding review petition.

4.0 Deliverables

The Consultant shall deliver the following during the course of this Consultancy. The deliverables shall also drafted that they could be given to the bidders for preparation of their bids. The deliverables shall also include:

4.1 Inception Report (Refer Clause 3.1)

On commencement of the Consultancy, the Consultant shall prepare and submit an inception report (the “**Inception Report**”). Consultant will study existing power supply arrangement of Authority and asses mid term and long term power supply after taking transmission and distribution losses. Consultant will suggest different modules for setting up coal based power

plant at Adra and estimate the indicative cost of power at Authority's load points. Consultant will suggest most economical model for Authority for setting up coal based thermal power plant. The Inception Report shall be a further elaboration of the Consultant's submissions towards understanding of the DPR, proposed project structuring and outline of the project, RFP, the methodology to be followed and work plan to be followed in consultation with the Authority. It shall also include a reference Detailed Project Report derived from their previous work experience or from similar other project as an example how the final product of the Consultancy may shape up. The submission shall be for the reference purpose only to clearly map out the method and manner in which the Consultant plans to approach the assignment. The inception report shall also include the schedule for presentation, submission of various drafts and final deliverables and visit of the key personnel in consultation with the project team. The consultant shall submit five sets of hard copy and two set soft copies in CD to the Authority.

4.2 Detailed Project Report (Referred Clause No.3.2)

On completion of the detailed study, the Consultant shall submit the Feasibility Report and Detailed Project Report to Authority for their approval. The Consultant shall submit five sets of hard copies of Feasibility Report & DPR and two set of soft copies in CD. The consultant shall prepare a detailed project report (the **“Detailed Project Report” or “DPR”**) , a comprehensive document that can be used as a basis for assessment of financial liabilities, costs for setting up of the plant, estimated cost of generation, project planning, and implementation scheduling for the Projects. The DPR shall include following:

- Estimated Project Costs;
- Estimated unit price of electricity generated based on the option adopted by the Authority;
- Explanatory notes on technical specifications;
- Explanatory notes on legal framework of the 'Power Purchase Agreement; and
- Explanatory notes on financial and commercial framework of the Power Purchase Agreement.
- Mandatory site specific studies covering hydrological, geological studies as well as meteorological and seismological data, soil investigation data, area drainage study, Railway siding study, Rail and Road linkages studies, geographical mapping, river data collection, location of intake structure study.

- Technical requirement of power plant.
- Socio-Economic Survey
- Calculation of FIRR for company and the Authority.
- Estimation of Levelised cost in different scenario.
- Feasibility Report with rapid EIA shall be submitted by Consultant within three months after issue of LOA.

4.3 **EIA Study** (Refer Clause No. 3.2)

The Consultant shall undertake environmental impact analysis due to the proposed Project, specially the persons affected due to the Project and requiring resettlement and rehabilitation. The extent policies and guidelines of the Government would be kept in view while undertaking the environmental assessment. Rapid EIA Report shall be submitted by the Consultant within three months of LOA.

4.4 **Bid documents** (Refer Clause 3.3):

The draft bid document will include RFQ, RFP, all requisite project agreement including the power purchase agreement, land lease agreement. These shall include both the draft and the final bid documents. The Consultant shall submit fifty copies in hard and five soft copies in CD to the Authority for RFP/RFQ. The draft bid document will include:

- RFP and RFQ;
- Power Purchase Agreement; and
- Land lease Agreement;

4.5 **Assistance in Bid process Management** (Refer Clause 3.3)

- Drafting evaluation criterion, guidelines and marking schemes;
- Assistance in responding to queries from bidders;
- Assisting during pre-bid conferences;
- Preparation of addenda, corrigendum, etc;
- Legal, technical and financial advisory on, issues referred, related to the bids received by the Authority.

- 4.6 In principle approvals of mandatory clearances for setting up of power plants. (Refer clause 3.2)
- Assistance in getting water linkage.
 - Assistance in getting coal linkage.
 - Civil Aviation and Military clearances.
 - Any other clearances and studies.
 - Tie up of other inputs such as environmental clearance consisting of public hearing, State Pollution Control Board and MOEF clearances.
 - Land acquisition
 - Ash disposal
 - Captive block allocation and development of coal mines as long term fuel security or for obtain coal linkage from subsidiaries of Coal India Limited.
- 4.7 Mandatory site specific studies. (Refer clause 3.3)
- 4.8 Obtaining Mandatory regulatory clearances from appropriate authority/regulatory commissions to operationalise power off take by the Authority from the power plant. (Refer Clause 3.5 & 3.6)
- 4.9 Finalization of JVA, MOA, AOA & formation of SPV. (Refer clause 3.4, 3.5 & 3.6).
- 4.10 Signing of power purchase agreement (Refer clause 3.3).

5.0 Assistance in pre-bid meetings etc. and bid evaluation

The Consultant shall assist the Authority in pre-bid meetings in addressing queries of the bidders and in amending the Bid documents as may be necessary. The Consultant shall also render legal, technical and financial advisory on issues, referred, related to the bids received by the Authority

6.0 Time and payment schedule.

- 6.1 Consultant shall deploy his Key Personnel at its project office in Delhi (the “**Project Office**”) as per Manning Schedule proposed. Consultant will coordinate various agencies for preparation of DPR and assist Authority for seeking mandatory clearances. After submission of the Bid Documents, the Consultant will be expected to participate in pre-bid conferences and in assisting the Authority in responding to queries from bidders, including amendment of the Bid Documents as necessary.

- 6.2 Time schedule for submission of important deliverables, shall be determined by the maximum permissible number of days from the Effective Date of the Agreement (the “**Key Dates**”). The Key Dates and payment schedule linked to the specified deliverables are given below:

Key Date No.	Description of deliverables	Ref. Clause no.	Key Date	Payment
KD1	Inception Report and acceptance by Authority	4.1	45	5%
KD2	Submission of Detailed Project Report(DPR) and acceptance by Authority	4.2	240	10%
KD3	EIA Studies	4.3	300	5%
KD4	Submission of Bid Documents and acceptance by the Authority	4.4	240	10%
KD5	In principle approvals of mandatory clearances for setting up of power plants.	4.5	300	10%
KD6	Assistance in Bid process Management	4.6	400	10%
KD7	Mandatory site specific studies	4.7	240	10%
KD8	Filing Regulatory petitions for power evacuation from thermal power plant to Authority’s load centres	4.8	700	10%
KD9	Finalization of JVA, MOA, AOA, formation of SPV.	4.9	730	10%
KD10	Signing of Power Purchase Agreement	4.10	730	5%
KD11	Completion of services		730	15%
Total				100%

Note:

1. *The Authority shall retain by way of performance security (the “Performance Security”), 5% (five percent) of all the amounts due and payable to the Consultant, to be appropriated against breach of this Agreement or for recovery of liquidated damages as specified in Clause 7.2 , Schedule -2, Form of Agreement. The balance remaining out of the Performance Security shall be returned to the Consultant at the end of three months after the expiration of the Agreement pursuant to Clause 2.4 thereof.*

The Consultant may, in lieu of retention of the amounts as referred to above, furnish a Bank Guarantee from a Scheduled Bank/Nationalized Bank in India substantially in the form specified at Annex-5 of the Agreement.

2. *Applicant shall take prior approval from the Authority before starting any work on deliverables specified in Clause 4.0. Some of the deliverables may be optional, the final cost of the project will be calculated only on agreed deliverables finalized by the Authority.*

6.3 Completion period – 24 months from signing of Contract.

7. Consultancy Team and Project Office

7.1 The Consultant shall form a multi-disciplinary team (the “**Consultancy Team**”) for undertaking this assignment. The Consultancy Team shall consist of experts who have the requisite experience. Expert shall be the leader of this Consultancy Team.

7.2 The Consultant shall mobilize and demobilize its Professional Personnel in consultation with the Authority and shall maintain the time sheet/ attendance sheet of the working of all Key Personnel. These time sheets/ attendance sheets shall be made available to the Authority as and when asked for.

7.3 Meeting with the Authority.

7.3.1 The Consultancy requires close interaction with the project team that will be nominated by Authority at New Delhi or Adra for timely inputs feedback on proposals, confirmation of operational requirement and approval of intermediate stages. The Consultants shall interact with the Project Team at least once a week with each meeting attended by at s one Key Personnel, for presenting the work completed and obtaining Project team’s feedback. Each meeting shall be minuted by the Consultant and submitted to Authority

fortnightly for record. Team leader must participate in these meeting at least once in month on dates to be mutually agreed between the Authority and Consultant having regard to avoiding unnecessary travel. In addition, the Key Personnel or Team Leader shall make formal presentation to the Authority at New Delhi as part of interactive process and when mutually agreed upon.

8. Completion of Services

The Consultant shall, during the selection process to prepare DPR and select the Bidders for setting up of Thermal power project, assist the Authority in form of advisory services on commercial, legal, financial and technical components of the bid received.

After selection of the Bidders to execute the Projects, all the study outputs including primary data shall be compiled, classified and submitted by the Consultant to the Authority in soft form apart from the Deliverables indicated in Clause 3 above. The study outputs shall remain the property of the Authority and shall not be used for any purpose other than that intended under these Terms of Reference. The Consultancy services shall stand completed on issue of a certificate by the Authority to that effect.

SCHEDULE – 2

AGREEMENT

FOR

CONSULTANT

For

Setting up of

1320 MW Thermal Power Plant

at

Adra, West Bengal

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AGREEMENT

For Consultancy for setting up of a 1320 MW Coal based Thermal Power Plant at Adra, West Bengal

AGREEMENT No. _____

This AGREEMENT (hereinafter called the “**Agreement**”) is made on the _____ day of the month of _____ 20**, between, on the one hand, the President of India acting through Executive Director, Electrical Energy Management, Ministry of Railways (Railway Board), Government of India, Rail Bhavan, New Delhi-110001 (hereinafter called the “**the Authority**” which expression shall include their respective successors and permitted assigns, unless the context otherwise requires) and, on the other hand, _____ (hereinafter called the “**Consultant**” which expression shall include their respective successors and permitted assigns).

WHEREAS

- (A) the Authority vide their Request for Proposals for **Consultancy** for setting up of a 1320 MW Coal based Thermal Power Plant at Adra, West Bengal (hereinafter called the “**Consultancy**”) invited technical and financial proposals to undertake the work of Consultancy for the above referred work (hereinafter called the “**Project**”);
 - (B) the Consultant submitted its proposals for the aforesaid work, whereby the Consultant represented to the Authority that it had the required professional skills, and in the said proposals the Consultant also agreed to provide the Services to the Authority on the terms and conditions as set forth in the RFP and this Agreement; and
 - (C) Authority, on acceptance of the aforesaid proposals of the Consultant, awarded the Consultancy work to the Consultant vide the Letter of Award for the Consultancy dated _____ (the “**LOA**”); and
 - (D) in pursuance of the LOA, the parties have agreed to enter into this Agreement.
- NOW, THEREFORE, the parties hereto hereby agree as follows:

1. GENERAL

1.1 Definitions and Interpretation

1.1.1 The words and expressions beginning with capital letters and defined in this Agreement shall, unless the context otherwise requires, have the meaning hereinafter respectively assigned to them:

- (a) **“Additional Costs”** shall have the meaning set forth in Clause 6.1.2;
- (b) **“Agreement”** means this Agreement, together with all the Annexes;
- (c) **“Agreement Value”** shall have the meaning set forth in Clause 6.1.2;
- (d) **“Applicable Laws”** means the laws and any other instruments having the force of law in India as they may be issued and in force from time to time;
- (e) **“Confidential Information”** shall have the meaning set forth in Clause 3.3;
- (f) **“Conflict of Interest”** shall have the meaning set forth in Clause 3.2 read with the provisions of RFP;
- (g) **“Dispute”** shall have the meaning set forth in Clause 9.2.1;
- (h) **“Effective Date”** means the date on which this Agreement comes into force and effect pursuant to Clause 2.1;
- (i) **“Expatriate Personnel”** means such persons who at the time of being so hired had their domicile outside India;
- (j) **“Government”** means the [Government of *****];
- (k) **“INR, Re. or Rs.”** means Indian Rupees;
- (l) **“Member”**, in case the Consultant consists of a joint venture or consortium of more than one entity, means any of these entities, and **“Members”** means all of these entities;
- (m) **“Party”** means the Authority or the Consultant, as the case may be, and Parties means both of them;
- (n) **“Personnel”** means persons hired by the Consultant or by any Sub-Consultant as employees and assigned to the performance of the Services or any part thereof;
- (o) **“Resident Personnel”** means such persons who at the time of being so hired had their domicile inside India;
- (p) **“RFP”** means the Request for Proposal document in response to which the Consultant’s proposal for providing Services was accepted;

- (q) **“Services”** means the work to be performed by the Consultant pursuant to this Agreement, as described in the Terms of Reference hereto;
- (r) **“Sub-Consultant”** means any entity to which the Consultant subcontracts any part of the Services in accordance with the provisions of Clause 4.7; and
- (s) **“Third Party”** means any person or entity other than the Government, the Authority, the Consultant or a Sub-Consultant.

All terms and words not defined herein shall, unless the context otherwise requires, have the meaning assigned to them in the RFP.

1.1.2 The following documents along with all addenda issued thereto shall be deemed to form and be read and construed as integral parts of this Agreement and in case of any contradiction between or among them the priority in which a document would prevail over another would be as laid down below beginning from the highest priority to the lowest priority:

- (a) Agreement;
- (b) Annexes of Agreement;
- (c) RFP; and
- (d) Letter of Award.

1.2 Relation between the Parties

Nothing contained herein shall be construed as establishing a relation of master and servant or of agent and principal as between the Authority and the Consultant. The Consultant shall, subject to this Agreement, have complete charge of Personnel performing the Services and shall be fully responsible for the Services performed by them or on their behalf hereunder.

1.3 Rights and obligations

The mutual rights and obligations of the Authority and the Consultant shall be as set forth in the Agreement, in particular:

- (a) the Consultant shall carry out the Services in accordance with the provisions of the Agreement; and
- (b) Authority shall make payments to the Consultant in accordance with the provisions of the Agreement.

1.4 Governing law and jurisdiction

This Agreement shall be construed and interpreted in accordance with and governed by the laws of India, and the courts at ***** shall have exclusive jurisdiction over matters arising out of or relating to this Agreement.

1.5 Language

All notices required to be given by one Party to the other Party and all other communications, documentation and proceedings which are in any way relevant to this Agreement shall be in writing and in English language.

1.6 Table of contents and headings

The table of contents, headings or sub-headings in this Agreement are for convenience of reference only and shall not be used in, and shall not affect, the construction or interpretation of this Agreement.

1.7 Notices

Any notice or other communication to be given by any Party to the other Party under or in connection with the matters contemplated by this Agreement shall be in writing and shall:

- (a) in the case of the Consultant, be given by facsimile or e-mail and by letter delivered by hand to the address given and marked for attention of the Consultant's Representative set out below in Clause 1.10 or to such other person as the Consultant may from time to time designate by notice to the Authority; provided that notices or other communications to be given to an address outside ***** may, if they are subsequently confirmed by sending a copy thereof by registered acknowledgement due, air mail or by courier, be sent by facsimile or e-mail to the number as the Consultant may from time to time designate by notice to the Authority;
- (b) in the case of the Authority, be given by facsimile or e-mail and by letter delivered by hand and be addressed to the Authority with a copy delivered to the Authority Representative set out below in Clause 1.10 or to such other person as the Authority may from time to time designate by notice to the Consultant; provided that if the Consultant does not have an office in [New Delhi] it may send such notice by facsimile or e-mail and by registered acknowledgement due, air mail or by courier; and
- (c) any notice or communication by a Party to the other Party, given in accordance herewith, shall be deemed to have been delivered when in the normal course of post it ought to have been delivered and in all other cases, it shall be deemed to have been delivered on the actual date and time of delivery; provided that in the case of facsimile or e-mail, it shall be deemed to have been delivered on the working days following the date of its delivery.

1.8 Location

The Services shall be performed at the site of the Project in accordance with the provisions of RFP and at such locations as are incidental thereto, including the offices of the Consultant.

1.9 Authority of Member-in-charge

In case the Consultant consists of a consortium of more than one entity, the Parties agree that the Lead Member shall act on behalf of the Members in exercising all the Consultant's rights and obligations towards the Authority under this Agreement, including without limitation the receiving of instructions and payments from the Authority.

1.10 Authorised Representatives

1.10.1 Any action required or permitted to be taken, and any document required or permitted to be executed, under this Agreement by the Authority or the Consultant, as the case may be, may be taken or executed by the officials specified in this Clause 1.10.

1.10.2 The Authority may, from time to time, designate one of its officials as the Authority Representative. Unless otherwise notified, the Authority Representative shall be:

Executive Director, Electrical Energy Management,
Ministry of Railways (Railway Board),
Room No.-102-A, Rail Bhavan,
Raisina Road,
New Delhi-110001 (India)
Phone: +91-11-23386991 Fax: +91-11-23386991
Email: edeeem@rb.railnet.gov.in

1.10.3 The Consultant may designate one of its employees as Consultant's Representative. Unless otherwise notified, the Consultant's Representative shall be:

Tel: -----
Mobile: -----
Fax: -----
Email: -----

1.11 Taxes and duties

Unless otherwise specified in the Agreement, the Consultant shall pay all such taxes, duties, fees and other impositions as may be levied under the Applicable Laws and the Authority shall perform such duties in regard to the deduction of such taxes as may be lawfully imposed on it.

2. COMMENCEMENT, COMPLETION AND TERMINATION OF AGREEMENT

2.1 Effectiveness of Agreement

This Agreement shall come into force and effect on the date of this Agreement (the “**Effective Date**”).

2.2 Commencement of Services

The Consultant shall commence the Services within a period of 7 (seven) days from the Effective Date, unless otherwise agreed by the Parties.

2.3 Termination of Agreement for failure to commence Services

If the Consultant does not commence the Services within the period specified in Clause 2.2 above, the Authority may, by not less than 2 (two) weeks’ notice to the Consultant, declare this Agreement to be null and void, and in the event of such a declaration, the Bid Security of the Consultant shall stand forfeited.

2.4 Expiration of Agreement

Unless terminated earlier pursuant to Clauses 2.3 or 2.9 hereof, this Agreement shall, unless extended by the Parties by mutual consent, expire upon the earlier of (i) expiry of a period of 90 (ninety) days after the delivery of the final deliverable to the Authority; Upon Termination, the Authority shall make payments of all amounts due to the Consultant hereunder.

2.5 Entire Agreement

2.5.1 This Agreement and the Annexes together constitute a complete and exclusive statement of the terms of the agreement between the Parties on the subject hereof, and no amendment or modification hereto shall be valid and effective unless such modification or amendment is agreed to in writing by the Parties and duly executed by persons especially empowered in this behalf by the respective Parties. All prior written or oral understandings, offers or other communications of every kind pertaining to this Agreement are abrogated and withdrawn; provided, however, that the obligations of the Consultant arising out of the provisions of the RFP shall continue to subsist and shall be deemed to form part of this Agreement.

2.5.2 Without prejudice to the generality of the provisions of Clause 2.5.1, on matters not covered by this Agreement, the provisions of RFP shall apply.

2.6 Modification of Agreement

Modification of the terms and conditions of this Agreement, including any modification of the scope of the Services, may only be made by written agreement between the Parties. Pursuant to Clauses 4.2.3 and 6.1.3 hereof, however, each Party shall give due consideration to any proposals for modification made by the other Party.

2.7 Force Majeure

2.7.1 Definition

- (a) For the purposes of this Agreement, “**Force Majeure**” means an event which is beyond the reasonable control of a Party, and which makes a Party’s performance of its obligations hereunder impossible or so impractical as reasonably to be considered impossible in the circumstances, and includes, but is not limited to, war, riots, civil disorder, earthquake, fire, explosion, storm, flood or other adverse weather conditions, strikes, lockouts or other industrial action (except where such strikes, lockouts or other industrial action are within the power of the Party invoking Force Majeure to prevent), confiscation or any other action by government agencies.
- (b) Force Majeure shall not include (i) any event which is caused by the negligence or intentional action of a Party or such Party’s Sub-Consultant or agents or employees, nor (ii) any event which a diligent Party could reasonably have been expected to both (A) take into account at the time of the conclusion of this Agreement, and (B) avoid or overcome in the carrying out of its obligations hereunder.
- (c) Force Majeure shall not include insufficiency of funds or failure to make any payment required hereunder.

2.7.2 No breach of Agreement

The failure of a Party to fulfil any of its obligations hereunder shall not be considered to be a breach of, or default under, this Agreement insofar as such inability arises from an event of Force Majeure, provided that the Party affected by such an event has taken all reasonable precautions, due care and reasonable alternative measures, all with the objective of carrying out the terms and conditions of this Agreement.

2.7.3 Measures to be taken

- (a) A Party affected by an event of Force Majeure shall take all reasonable measures to remove such Party’s inability to fulfill its obligations hereunder with a minimum of delay.
- (b) A Party affected by an event of Force Majeure shall notify the other Party of such event as soon as possible, and in any event not later than 14 (fourteen) days following the occurrence of such event, providing evidence of the nature and cause of such event, and shall similarly give notice of the restoration of normal conditions as soon as possible.
- (c) The Parties shall take all reasonable measures to minimize the consequences of any event of Force Majeure.

2.7.4 Extension of time

Any period within which a Party shall, pursuant to this Agreement, complete any action or task, shall be extended for a period equal to the time during which such Party was unable to perform such action as a result of Force Majeure.

2.7.5 Payments

During the period of its inability to perform the Services as a result of an event of Force Majeure, the Consultant shall be entitled to be reimbursed for additional costs reasonably and necessarily incurred by it during such period for the purposes of the Services and in reactivating the Services after the end of such period.

2.7.6 Consultation

Not later than 30 (thirty) days after the Consultant has, as the result of an event of Force Majeure, become unable to perform a material portion of the Services, the Parties shall consult with each other with a view to agreeing on appropriate measures to be taken in the circumstances.

2.8 Suspension of Agreement

The Authority may, by written notice of suspension to the Consultant, suspend all payments to the Consultant hereunder if the Consultant shall be in breach of this Agreement or shall fail to perform any of its obligations under this Agreement, including the carrying out of the Services; provided that such notice of suspension (i) shall specify the nature of the breach or failure, and (ii) shall provide an opportunity to the Consultant to remedy such breach or failure within a period not exceeding 30 (thirty) days after receipt by the Consultant of such notice of suspension.

2.9 Termination of Agreement

2.9.1 By the Authority

The Authority may, by not less than 30 (thirty) days' written notice of termination to the Consultant, such notice to be given after the occurrence of any of the events specified in this Clause 2.9.1, terminate this Agreement if:

- (a) the Consultant fails to remedy any breach hereof or any failure in the performance of its obligations hereunder, as specified in a notice of suspension pursuant to Clause 2.8 hereinabove, within 30 (thirty) days of receipt of such notice of suspension or within such further period as the Authority may have subsequently granted in writing;
- (b) the Consultant becomes insolvent or bankrupt or enters into any agreement with its creditors for relief of debt or take advantage of any law for the benefit of debtors or goes into liquidation or receivership whether compulsory or voluntary;

- (c) the Consultant fails to comply with any final decision reached as a result of arbitration proceedings pursuant to Clause 9 hereof;
- (d) the Consultant submits to the Authority a statement which has a material effect on the rights, obligations or interests of the Authority and which the Consultant knows to be false;
- (e) any document, information, data or statement submitted by the Consultant in its Proposals, based on which the Consultant was considered eligible or successful, is found to be false, incorrect or misleading;
- (f) as the result of Force Majeure, the Consultant is unable to perform a material portion of the Services for a period of not less than 60 (sixty) days; or
- (g) Authority, in its sole discretion and for any reason whatsoever, decides to terminate this Agreement.

2.9.2 By the Consultant

The Consultant may, by not less than 30 (thirty) days' written notice to the Authority, such notice to be given after the occurrence of any of the events specified in this Clause 2.9.2, terminate this Agreement if:

- (a) the Authority fails to pay any money due to the Consultant pursuant to this Agreement and not subject to dispute pursuant to Clause 9 hereof within 45 (forty five) days after receiving written notice from the Consultant that such payment is overdue;
- (b) the Authority is in material breach of its obligations pursuant to this Agreement and has not remedied the same within 45 (forty five) days (or such longer period as the Consultant may have subsequently granted in writing) following the receipt by the Authority of the Consultant's notice specifying such breach;
- (c) as the result of Force Majeure, the Consultant is unable to perform a material portion of the Services for a period of not less than 60 (sixty) days; or
- (d) the Authority fails to comply with any final decision reached as a result of arbitration pursuant to Clause 9 hereof.

2.9.3 Cessation of rights and obligations

Upon termination of this Agreement pursuant to Clauses 2.3 or 2.9 hereof, or upon expiration of this Agreement pursuant to Clause 2.4 hereof, all rights and obligations of the Parties hereunder shall cease, except (i) such rights and obligations as may have accrued on the date of termination or expiration, or which expressly survive such Termination; (ii) the obligation of confidentiality set forth in Clause 3.3 hereof; (iii) the Consultant's obligation to permit inspection, copying and auditing of such of its accounts and records set forth in

Clause 3.6, as relate to the Consultant's Services provided under this Agreement; and (iv) any right or remedy which a Party may have under this Agreement or the Applicable Law.

2.9.4 Cessation of Services

Upon termination of this Agreement by notice of either Party to the other pursuant to Clauses 2.9.1 or 2.9.2 hereof, the Consultant shall, immediately upon dispatch or receipt of such notice, take all necessary steps to bring the Services to a close in a prompt and orderly manner and shall make every reasonable effort to keep expenditures for this purpose to a minimum. With respect to documents prepared by the Consultant and equipment and materials furnished by the Authority, the Consultant shall proceed as provided respectively by Clauses 3.9 or 3.10 hereof.

2.9.5 Payment upon Termination

Upon termination of this Agreement pursuant to Clauses 2.9.1 or 2.9.2 hereof, the Authority shall make the following payments to the Consultant (after offsetting against these payments any amount that may be due from the Consultant to the Authority):

- (i) remuneration pursuant to Clause 6 hereof for Services satisfactorily performed prior to the date of termination;
- (ii) reimbursable expenditures pursuant to Clause 6 hereof for expenditures actually incurred prior to the date of termination; and
- (iii) except in the case of termination pursuant to sub-clauses (a) through (e) of Clause 2.9.1 hereof, reimbursement of any reasonable cost incidental to the prompt and orderly termination of the Agreement including the cost of the return travel of the Consultant's personnel.

2.9.6 Disputes about Events of Termination

If either Party disputes whether an event specified in Clause 2.9.1 or in Clause 2.9.2 hereof has occurred, such Party may, within 30 (thirty) days after receipt of notice of termination from the other Party, refer the matter to arbitration pursuant to Clause 9 hereof, and this Agreement shall not be terminated on account of such event except in accordance with the terms of any resulting arbitral award.

3. OBLIGATIONS OF THE CONSULTANT

3.1 General

3.1.1 Standards of Performance

The Consultant shall perform the Services and carry out its obligations hereunder with all due diligence, efficiency and economy, in accordance with generally accepted professional techniques and practices, and shall observe sound management practices, and employ appropriate advanced technology

and safe and effective equipment, machinery, materials and methods. The Consultant shall always act, in respect of any matter relating to this Agreement or to the Services, as a faithful adviser to the Authority, and shall at all times support and safeguard the Authority's legitimate interests in any dealings with Sub-Consultants or Third Parties.

3.1.2 Terms of Reference

The scope of services to be performed by the Consultant is specified in the Terms of Reference (the “**TOR**”) at Annex-1 of this Agreement. The Consultant shall provide the Deliverables specified therein in conformity with the time schedule stated therein.

3.1.3 Applicable Laws

The Consultant shall perform the Services in accordance with the Applicable Laws and shall take all practicable steps to ensure that any Sub-Consultant, as well as the Personnel and agents of the Consultant and any Sub-Consultant, comply with the Applicable Laws.

3.2 Conflict of Interest

3.2.1 The Consultant shall not have a Conflict of Interest and any breach hereof shall constitute a breach of the Agreement.

3.2.2 Consultant and Affiliates not to be otherwise interested in the Project

The Consultant agrees that, during the term of this Agreement and after its termination, the Consultant or any Associate thereof and any entity affiliated with the Consultant, as well as any Sub-Consultant and any entity affiliated with such Sub-Consultant, shall be disqualified from providing goods, works, services, loans or equity for any project resulting from or closely related to the Services and any breach of this obligation shall amount to a Conflict of Interest; provided that the restriction herein shall not apply after a period of five years from the completion of this assignment or to consulting assignments granted by banks/ lenders at any time; provided further that this restriction shall not apply to consultancy/ advisory services provided to the Authority in continuation of this Consultancy or to any subsequent consultancy/ advisory services provided to the Authority in accordance with the rules of the Authority. For the avoidance of doubt, an entity affiliated with the Consultant shall include a partner in the Consultant's firm or a person who holds more than 5% (five per cent) of the subscribed and paid up share capital of the Consultant, as the case may be, and any Associate thereof.

3.2.3 Prohibition of conflicting activities

Neither the Consultant nor its Sub-Consultant nor the Personnel of either of them shall engage, either directly or indirectly, in any of the following activities:

- (a) during the term of this Agreement, any business or professional activities which would conflict with the activities assigned to them under this Agreement;
- (b) after the termination of this Agreement, such other activities as may be specified in the Agreement; or
- (c) at any time, such other activities as have been specified in the RFP as Conflict of Interest.

3.2.4 Consultant not to benefit from commissions, discounts, etc.

The remuneration of the Consultant pursuant to Clause 6 hereof shall constitute the Consultant's sole remuneration in connection with this Agreement or the Services and the Consultant shall not accept for its own benefit any trade commission, discount or similar payment in connection with activities pursuant to this Agreement or to the Services or in the discharge of its obligations hereunder, and the Consultant shall use its best efforts to ensure that any Sub-Consultant, as well as the Personnel and agents of either of them, similarly shall not receive any such additional remuneration.

3.2.5 The Consultant and its Personnel shall observe the highest standards of ethics and shall not have engaged in and shall not hereafter engage in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice (collectively the "**Prohibited Practices**"). Notwithstanding anything to the contrary contained in this Agreement, the Authority shall be entitled to terminate this Agreement forthwith by a communication in writing to the Consultant, without being liable in any manner whatsoever to the Consultant, if it determines that the Consultant has, directly or indirectly or through an agent, engaged in any Prohibited Practices in the Selection Process or before or after entering into of this Agreement. In such an event, the Authority shall forfeit and appropriate the performance security, if any, as mutually agreed genuine pre-estimated compensation and damages payable to the Authority towards, *inter alia*, the time, cost and effort of the Authority, without prejudice to the Authority's any other rights or remedy hereunder or in law.

3.2.6 Without prejudice to the rights of the Authority under Clause 3.2.5 above and the other rights and remedies which the Authority may have under this Agreement, if the Consultant is found by the Authority to have directly or indirectly or through an agent, engaged or indulged in any Prohibited Practices, during the Selection Process or before or after the execution of this Agreement, the Consultant shall not be eligible to participate in any tender or RFP issued during a period of 2 (two) years from the date the Consultant is found by the Authority to have directly or indirectly or through an agent, engaged or indulged in any Prohibited Practices.

3.2.7 For the purposes of Clauses 3.2.5 and 3.2.6, the following terms shall have the meaning hereinafter respectively assigned to them:

- (a) **“corrupt practice”** means the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence the actions of any person connected with the Selection Process (for removal of doubt, offering of employment or employing or engaging in any manner whatsoever, directly or indirectly, any official of the Authority who is or has been associated in any manner, directly or indirectly with Selection Process or LOA or dealing with matters concerning the Agreement before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the Authority, shall be deemed to constitute influencing the actions of a person connected with the Selection Process); or (ii) engaging in any manner whatsoever, whether during the Selection Process or after the issue of LOA or after the execution of the Agreement, as the case may be, any person in respect of any matter relating to the Project or the LOA or the Agreement, who at any time has been or is a legal, financial or technical adviser the Authority in relation to any matter concerning the Project;
- (b) **“fraudulent practice”** means a misrepresentation or omission of facts or suppression of facts or disclosure of incomplete facts, in order to influence the Selection Process;
- (c) **“coercive practice”** means impairing or harming, or threatening to impair or harm, directly or indirectly, any person or property to influence any person’s participation or action in the Selection Process or the exercise of its rights or performance of its obligations by the Authority under this Agreement;
- (d) **“undesirable practice”** means (i) establishing contact with any person connected with or employed or engaged by the Authority with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Selection Process; or (ii) having a Conflict of Interest; and
- (e) **“restrictive practice”** means forming a cartel or arriving at any understanding or arrangement among Applicants with the objective of restricting or manipulating a full and fair competition in the Selection Process.

3.3 Confidentiality

The Consultant, its Sub-Consultants and the Personnel of either of them shall not, either during the term or within two years after the expiration or termination of this Agreement disclose any proprietary information, including information relating to reports, data, drawings, design software or other material, whether written or oral, in electronic or magnetic format, and the contents thereof; and any reports, digests or summaries created or derived from any of the foregoing that is provided by the Authority to the Consultant, its Sub-Consultants and the Personnel; any information provided by or relating to the Authority, its technology, technical processes, business affairs or finances

or any information relating to the Authority's employees, officers or other professionals or suppliers, customers, or contractors of the Authority; and any other information which the Consultant is under an obligation to keep confidential in relation to the Project, the Services or this Agreement ("**Confidential Information**"), without the prior written consent of the Authority.

Notwithstanding the aforesaid, the Consultant, its Sub-Consultants and the Personnel of either of them may disclose Confidential Information to the extent that such Confidential Information:

- (i) was in the public domain prior to its delivery to the Consultant, its Sub-Consultants and the Personnel of either of them or becomes a part of the public knowledge from a source other than the Consultant, its Sub-Consultants and the Personnel of either of them;
- (ii) was obtained from a third party with no known duty to maintain its confidentiality;
- (iii) is required to be disclosed by Applicable Laws or judicial or administrative or arbitral process or by any governmental instrumentalities, provided that for any such disclosure, the Consultant, its Sub-Consultants and the Personnel of either of them shall give the Authority, prompt written notice, and use reasonable efforts to ensure that such disclosure is accorded confidential treatment; and
- (iv) is provided to the professional advisers, agents, auditors or representatives of the Consultant or its Sub-Consultants or Personnel of either of them, as is reasonable under the circumstances; provided, however, that the Consultant or its Sub-Consultants or Personnel of either of them, as the case may be, shall require their professional advisers, agents, auditors or its representatives, to undertake in writing to keep such Confidential Information, confidential and shall use its best efforts to ensure compliance with such undertaking.

3.4 Liability of the Consultant

- 3.4.1 The Consultant's liability under this Agreement shall be determined by the Applicable Laws and the provisions hereof.
- 3.4.2 The Consultant shall, subject to the limitation specified in Clause 3.4.3, be liable to the Authority for any direct loss or damage accrued or likely to accrue due to deficiency in Services rendered by it.
- 3.4.3 The Parties hereto agree that in case of negligence or wilful misconduct on the part of the Consultant or on the part of any person or firm acting on behalf of the Consultant in carrying out the Services, the Consultant, with respect to damage caused to the Authority's property, shall not be liable to the Authority:
 - (i) for any indirect or consequential loss or damage; and

(ii) for any direct loss or damage that exceeds (a) the Agreement Value set forth in Clause 6.1.2 of this Agreement, or (b) the proceeds the Consultant may be entitled to receive from any insurance maintained by the Consultant to cover such a liability in accordance with Clause 3.5.2, whichever of (a) or (b) is higher.

- 3.4.4 This limitation of liability specified in Clause 3.4.3 shall not affect the Consultant's liability, if any, for damage to Third Parties caused by the Consultant or any person or firm acting on behalf of the Consultant in carrying out the Services subject, however, to a limit equal to 3 (three) times the Agreement Value.

3.5 Insurance to be taken out by the Consultant

- 3.5.1 (a) The Consultant shall, for the duration of this Agreement, take out and maintain, and shall cause any Sub-Consultant to take out and maintain, at its (or the Sub-Consultant's, as the case may be) own cost, but on terms and conditions approved by the Authority, insurance against the risks, and for the coverages, as specified in the Agreement and in accordance with good industry practice.
- (b) Within 15 (fifteen) days of receiving any insurance policy certificate in respect of insurances required to be obtained and maintained under this clause, the Consultant shall furnish to the Authority, copies of such policy certificates, copies of the insurance policies and evidence that the insurance premia have been paid in respect of such insurance. No insurance shall be cancelled, modified or allowed to expire or lapse during the term of this Agreement.
- (c) If the Consultant fails to effect and keep in force the aforesaid insurances for which it is responsible pursuant hereto, the Authority shall, apart from having other recourse available under this Agreement, have the option, without prejudice to the obligations of the Consultant, to take out the aforesaid insurance, to keep in force any such insurances, and pay such premia and recover the costs thereof from the Consultant, and the Consultant shall be liable to pay such amounts on demand by the Authority.
- (d) Except in case of Third Party liabilities, the insurance policies so procured shall mention the Authority as the beneficiary of the Consultant and the Consultant shall procure an undertaking from the insurance company to this effect; provided that in the event the Consultant has a general insurance policy that covers the risks specified in this Agreement and the amount of insurance cover is equivalent to 3 (three) times the cover required hereunder, such insurance policy may not mention the Authority as the sole beneficiary of the Consultant or require an undertaking to that effect.
- 3.5.2 The Parties agree that the risks and coverages shall include but not be limited to the following:

- (a) Third Party liability insurance as required under Applicable Laws, with a minimum coverage of [Rs. 1 (one) crore]¹;
- (b) employer's liability and workers' compensation insurance in respect of the Personnel of the Consultant and of any Sub-Consultant, in accordance with Applicable Laws; and
- (c) professional liability insurance for an amount no less than the Agreement Value.

The indemnity limit in terms of "Any One Accident" (AOA) and "Aggregate limit on the policy period" (AOP) should not be less than the amount stated in Clause 6.1.2 of the Agreement. In case of consortium, the policy should be in the name of Lead Member and not in the name of individual Members of the consortium.

3.6 Accounting, inspection and auditing

The Consultant shall:

- (a) keep accurate and systematic accounts and records in respect of the Services provided under this Agreement, in accordance with internationally accepted accounting principles and in such form and detail as will clearly identify all relevant time charges and cost, and the basis thereof (including the basis of the Consultant's costs and charges); and
- (b) permit the Authority or its designated representative periodically, and up to one year from the expiration or termination of this Agreement, to inspect the same and make copies thereof as well as to have them audited by auditors appointed by the Authority.

3.7 Consultant's actions requiring the Authority's prior approval

The Consultant shall obtain the Authority's prior approval in writing before taking any of the following actions:

- (a) appointing such members of the Professional Personnel as are not listed in Annex-2.
- (b) entering into a subcontract for the performance of any part of the Services, it being understood (i) that the selection of the Sub-Consultant and the terms and conditions of the subcontract shall have been approved in writing by the Authority prior to the execution of the subcontract, and (ii) that the Consultant shall remain fully liable for the performance of the Services by the Sub-Consultant and its Personnel pursuant to this Agreement; or
- (c) any other action that is specified in this Agreement.

¹ This amount may be fixed at 1% (one per cent) of the indicative capital cost of the Project, but subject to a maximum of Rs. 20 (Twenty) crore.

3.8 Reporting obligations

The Consultant shall submit to the Authority the reports and documents specified in the Agreement, in the form, in the numbers and within the time periods set forth therein.

3.9 Documents prepared by the Consultant to be property of the Authority

3.9.1 All plans, drawings, specifications, designs, reports and other documents (collectively referred to as “**Consultancy Documents**”) prepared by the Consultant (or by the Sub-Consultants or any Third Party) in performing the Services shall become and remain the property of the Authority, and all intellectual property rights in such Consultancy Documents shall vest with the Authority. Any Consultancy Document, of which the ownership or the intellectual property rights do not vest with the Authority under law, shall automatically stand assigned to the Authority as and when such Consultancy Document is created and the Consultant agrees to execute all papers and to perform such other acts as the Authority may deem necessary to secure its rights herein assigned by the Consultant.

3.9.2 The Consultant shall, not later than termination or expiration of this Agreement, deliver all Consultancy Documents to the Authority, together with a detailed inventory thereof. The Consultant may retain a copy of such Consultancy Documents. The Consultant, its Sub-Consultants or a Third Party shall not use these Consultancy Documents for purposes unrelated to this Agreement without the prior written approval of the Authority.

3.9.3 The Consultant shall hold the Authority harmless and indemnified for any losses, claims, damages, expenses (including all legal expenses), awards, penalties or injuries (collectively referred to as ‘claims’) which may arise from or due to any unauthorised use of such Consultancy Documents, or due to any breach or failure on part of the Consultant or its Sub-Consultants or a Third Party to perform any of its duties or obligations in relation to securing the aforementioned rights of the Authority.

3.10 Equipment and materials furnished by the Authority

Equipment and materials made available to the Consultant by the Authority shall be the property of the Authority and shall be marked accordingly. Upon termination or expiration of this Agreement, the Consultant shall furnish forthwith to the Authority, an inventory of such equipment and materials and shall dispose of such equipment and materials in accordance with the instructions of the Authority. While in possession of such equipment and materials, the Consultant shall, unless otherwise instructed by the Authority in writing, insure them in an amount equal to their full replacement value.

3.11 Providing access to Project Office and Personnel

The Consultant shall ensure that the Authority, and officials of the Authority having authority from the Authority, are provided unrestricted access to the Project Office and to all Personnel during office hours. The Authority’s official, who has been authorised by the Authority in this behalf, shall have the

right to inspect the Services in progress, interact with Personnel of the Consultant and verify the records relating to the Services for his satisfaction.

3.12. Accuracy of Documents

The Consultant shall be responsible for accuracy of the data collected by it directly or procured from other agencies/authorities, the designs, drawings, estimates and all other details prepared by it as part of these services. Subject to the provisions of Clause 3.4, it shall indemnify the Authority against any inaccuracy in its work which might surface during implementation of the Project, if such inaccuracy is the result of any negligence or inadequate due diligence on part of the Consultant or arises out of its failure to conform to good industry practice. The Consultant shall also be responsible for promptly correcting, at its own cost and risk, the drawings including any re-survey / investigations.

4. CONSULTANT'S PERSONNEL AND SUB-CONSULTANTS

4.1 General

The Consultant shall employ and provide such qualified and experienced Personnel as may be required to carry out the Services.

4.2 Deployment of Personnel

- 4.2.1 The designations, names and the estimated periods of engagement in carrying out the Services by each of the Consultant's Personnel are described in Annex-2 of this Agreement.

4.3 Approval of Personnel

- 4.3.1 The Professional Personnel listed in Annex-2 of the Agreement are hereby approved by the Authority. No other Professional Personnel shall be engaged without prior approval of the Authority.
- 4.3.2 If the Consultant hereafter proposes to engage any person as Professional Personnel, it shall submit to the Authority its proposal along with a CV of such person in the form provided at Appendix-I (Form-12) of the RFP. The Authority may approve or reject such proposal within 14 (fourteen) days of receipt thereof. In case the proposal is rejected, the Consultant may propose an alternative person for the Authority's consideration. In the event the Authority does not reject a proposal within 14 (fourteen) days of the date of receipt thereof under this Clause 4.3, it shall be deemed to have been approved by the Authority.

4.4 Substitution of Key Personnel

The Authority expects all the Key Personnel specified in the Proposal to be available during implementation of the Agreement. The Authority will not consider any substitution of Key Personnel except under compelling circumstances beyond the control of the Consultant and the concerned Key Personnel. Such substitution shall be limited to not more than two Key

Personnel subject to equally or better qualified and experienced personnel being provided to the satisfaction of the Authority. Without prejudice to the foregoing, substitution of one Key Personnel shall be permitted subject to reduction of remuneration equal to 5% (five per cent) of the total contract value. In case of a second substitution, such reduction shall be equal to 10% (ten per cent) of the total value of the contract.

4.5 Working hours, overtime, leave, etc.

Any taking of leave by any Personnel for a period exceeding 7 (seven) days shall be subject to the prior approval of the Authority, and the Consultant shall ensure that any absence on leave will not delay the progress and quality of the Services.

4.6 Resident Team Leader and Project Manager

The person designated as the Team Leader of the Consultant's Personnel shall be responsible for the coordinated, timely and efficient functioning of the Personnel. In addition, the Consultant shall designate a suitable person as Project Manager (the "**Project Manager**") who shall be responsible for day to day performance of the Services.

4.7 Sub-Consultants

Sub-Consultants listed in Annex-3 of this Agreement are hereby approved by the Authority. The Consultant may, with prior written approval of the Authority, engage additional Sub-Consultants or substitute an existing Sub-Consultant. The hiring of Personnel by the Sub-Consultants shall be subject to the same conditions as applicable to Personnel of the Consultant under this Clause 4.

5.0 OBLIGATIONS OF THE AUTHORITY

5.1 Assistance in clearances etc.

Unless otherwise specified in the Agreement, the Authority shall make best efforts to ensure that the Government shall:

- (a) provide the Consultant, its Sub-Consultants and Personnel with work permits and such other documents as may be necessary to enable the Consultant, its Sub-Consultants or Personnel to perform the Services;
- (b) facilitate prompt clearance through customs of any property required for the Services; and
- (c) issue to officials, agents and representatives of the Government all such instructions as may be necessary or appropriate for the prompt and effective implementation of the Services.

5.2 Access to land and property

The Authority warrants that the Consultant shall have, free of charge, unimpeded access to the site of the project in respect of which access is required for the performance of Services; provided that if such access shall not be made available to the Consultant as and when so required, the Parties shall agree on (i) the time extension, as may be appropriate, for the performance of Services, and (ii) the additional payments, if any, to be made to the Consultant as a result thereof pursuant to Clause 6.1.3.

5.3 Change in Applicable Law

If, after the date of this Agreement, there is any change in the Applicable Laws with respect to taxes and duties the same shall be borne by the Consultant.

5.4 Payment

In consideration of the Services performed by the Consultant under this Agreement, the Authority shall make to the Consultant such payments and in such manner as is provided in Clause 6 of this Agreement.

6. PAYMENT TO THE CONSULTANT

6.1 Cost estimates and Agreement Value

6.1.1 An abstract of the cost of the Services payable to the Consultant is set forth in Annex-4 of the Agreement.

6.1.2 Except as may be otherwise agreed under Clause 6.2 of Schedule -1 the payments under this Agreement shall not exceed the agreement value specified herein (the “**Agreement Value**”). The Parties agree that the Agreement Value is Rs. (Rupees.).

6.2 Currency of payment

All payments shall be made in Indian Rupees. The Consultant shall be free to convert Rupees into any foreign currency as per Applicable Laws.

6.3 Mode of billing and payment

Billing and payments in respect of the Services shall be made as follows:-

- (a) The Consultant shall be paid for its services as per the Payment Schedule at Annex-5 of this Agreement, subject to the Consultant fulfilling the following conditions:
 - (i) No payment shall be due for the next stage till the Consultant completes, to the satisfaction of the Authority, the work pertaining to the preceding stage.
 - (ii) The Authority shall pay to the Consultant, only the undisputed amount.

- (b) The Authority shall cause the payment due to the Consultant to be made within 30 (thirty) days after the receipt by the Authority of duly completed bills with necessary particulars (the “**Due Date**”).
- (c) The final payment under this Clause shall be made only after the final report and a final statement, identified as such, shall have been submitted by the Consultant and approved as satisfactory by the Authority. The Services shall be deemed completed and finally accepted by the Authority and the final deliverable shall be deemed approved by the Authority as satisfactory upon expiry of 90 (ninety) days after receipt of the final deliverable by the Authority unless the Authority, within such 90 (ninety) day period, gives written notice to the Consultant specifying in detail, the deficiencies in the Services. The Consultant shall thereupon promptly make any necessary corrections and/or additions, and upon completion of such corrections or additions, the foregoing process shall be repeated. The Authority shall make the final payment upon acceptance or deemed acceptance of the final deliverable by the Authority.
- (d) Any amount which the Authority has paid or caused to be paid in excess of the amounts actually payable in accordance with the provisions of this Agreement shall be reimbursed by the Consultant to the Authority within 30 (thirty) days after receipt by the Consultant of notice thereof. Any such claim by the Authority for reimbursement must be made within 1 (one) year after receipt by the Authority of a final report and a final statement in accordance with Clause 6.3 (d). Any delay by the Consultant in reimbursement by the due date shall attract simple interest @ 10% (ten per cent) per annum.
- (e) All payments under this Agreement shall be made to the account of the Consultant as may be notified to the Authority by the Consultant.

7. LIQUIDATED DAMAGES AND PENALTIES

7.1 Performance Security

- 7.1.1 The Authority shall retain by way of performance security (the “**Performance Security**”), 5% (five per cent) of all the amounts due and payable to the Consultant, to be appropriated against breach of this Agreement or for recovery of liquidated damages as specified in Clause 7.2 herein. The balance remaining out of the Performance Security shall be returned to the Consultant at the end of 3 (three) months after the expiration of this Agreement pursuant to Clause 2.4 hereof.
- 7.1.2 The Consultant may, in lieu of retention of the amounts as referred to in Clause 7.1.1 above, furnish a Bank Guarantee substantially in the form specified at Annex-6 of this Agreement.

7.2 Liquidated Damages

7.2.1 Liquidated Damages for error/variation

In case any error or variation is detected in the reports submitted by the Consultant and such error or variation is the result of negligence or lack of due diligence on the part of the Consultant, the consequential damages thereof shall be quantified by the Authority in a reasonable manner and recovered from the Consultant by way of deemed liquidated damages, subject to a maximum of 10% (ten per cent) of the Agreement Value.

7.2.2 Liquidated Damages for delay

In case of delay in completion of Services, liquidated damages not exceeding an amount equal to 0.2% (zero point two per cent) of the Agreement Value per day, subject to a maximum of 10% (ten per cent) of the Agreement Value will be imposed and shall be recovered by appropriation from the payment due to the Consultant. In the event that no payment is due to the Consultant, the Consultant shall pay, to the Authority, the liquidated damages determined hereunder. The Authority shall, subject to a notice to the Consultant for making payment for the liquidated damages within 7 (seven) days therefrom, have the right to invoke and appropriate the proceeds of the Performance Security, in whole or in part. However, in case of delay due to reasons beyond the control of the Consultant, suitable extension of time shall be granted.

7.2.3 Encashment and appropriation of Performance Security

The Authority shall, subject to a notice to the Consultant for remedying the breach of the Agreement within 7 (seven) days therefrom, have the right to invoke and appropriate the proceeds of the Performance Security, in whole or in part.

7.3 Penalty for deficiency in Services

In addition to the liquidated damages not amounting to penalty, as specified in Clause 7.2, warning may be issued to the Consultant for minor deficiencies on its part. In the case of significant deficiencies in Services causing adverse effect on the Project or on the reputation of the Authority, other penal action including debarring for a specified period may also be initiated as per policy of the Authority.

8. FAIRNESS AND GOOD FAITH

8.1 Good Faith

The Parties undertake to act in good faith with respect to each other's rights under this Agreement and to adopt all reasonable measures to ensure the realisation of the objectives of this Agreement.

8.2 Operation of the Agreement

The Parties recognise that it is impractical in this Agreement to provide for every contingency which may arise during the life of the Agreement, and the Parties hereby agree that it is their intention that this Agreement shall operate fairly as between them, and without detriment to the interest of either of them, and that, if during the term of this Agreement either Party believes that this Agreement is operating unfairly, the Parties will use their best efforts to agree on such action as may be necessary to remove the cause or causes of such unfairness, but failure to agree on any action pursuant to this Clause shall not give rise to a dispute subject to arbitration in accordance with Clause 9 hereof.

9. SETTLEMENT OF DISPUTES

9.1 Amicable settlement

The Parties shall use their best efforts to settle amicably all disputes arising out of or in connection with this Agreement or the interpretation thereof.

9.2 Dispute resolution

9.2.1 Any dispute, difference or controversy of whatever nature howsoever arising under or out of or in relation to this Agreement (including its interpretation) between the Parties, and so notified in writing by either Party to the other Party (the “**Dispute**”) shall, in the first instance, be attempted to be resolved amicably in accordance with the conciliation procedure set forth in Clause 9.3.

9.2.2 The Parties agree to use their best efforts for resolving all Disputes arising under or in respect of this Agreement promptly, equitably and in good faith, and further agree to provide each other with reasonable access during normal business hours to all non-privileged records, information and data pertaining to any Dispute.

9.3 Conciliation

In the event of any Dispute between the Parties, either Party may call upon Member (Electrical) and the Chairman of the Board of Directors of the Consultant or a substitute thereof for amicable settlement, and upon such reference, the said persons shall meet no later than 10 (ten) days from the date of reference to discuss and attempt to amicably resolve the Dispute. If such meeting does not take place within the 10 (ten) day period or the Dispute is not amicably settled within 15 (fifteen) days of the meeting or the Dispute is not resolved as evidenced by the signing of written terms of settlement within 30 (thirty) days of the notice in writing referred to in Clause 9.2.1 or such longer period as may be mutually agreed by the Parties, either Party may refer the Dispute to arbitration in accordance with the provisions of Clause 9.4.

9.4 Arbitration

9.4.1 Any Dispute which is not resolved amicably by conciliation, as provided in Clause 9.3, shall be finally decided by reference to arbitration by an Arbitral Tribunal appointed in accordance with Clause 9.4.2. Such arbitration shall be held in accordance with the Rules of Arbitration of the International Centre for Alternative Dispute Resolution, New Delhi (the “**Rules**”), or such other rules

as may be mutually agreed by the Parties, and shall be subject to the provisions of the Arbitration and Conciliation Act, 1996. The venue of such arbitration shall be Delhi and the language of arbitration proceedings shall be English.

- 9.4.2 There shall be an Arbitral Tribunal of three arbitrators, of whom each Party shall select one, and the third arbitrator shall be appointed by the two arbitrators so selected, and in the event of disagreement between the two arbitrators, the appointment of a sole arbitrator whose appointment shall be made in accordance with the Rules.
- 9.4.3 The arbitrators shall make a reasoned award (the “**Award**”). Any Award made in any arbitration held pursuant to this Clause 9 shall be final and binding on the Parties as from the date it is made, and the Consultant and the Authority agree and undertake to carry out such Award without delay.
- 9.4.4 The Consultant and the Authority agree that an Award may be enforced against the Consultant and/or the Authority, as the case may be, and their respective assets wherever situated.
- 9.4.5 This Agreement and the rights and obligations of the Parties shall remain in full force and effect, pending the Award in any arbitration proceedings hereunder.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be signed in their respective names as of the day and year first above written.

SIGNED, SEALED AND DELIVERED

For and on behalf of
Consultant:

SIGNED, SEALED AND DELIVERED

For and on behalf of
[Authority]

(Signature)
(Name)
(Designation)
(Address)
(Fax No.)

(Signature)
(Name)
(Designation)
(Address)
(Fax No.)

In the presence of:

1.

2.

Annex -1

Terms of Reference

(Refer Clause 3.1.2)

[Reproduce Schedule-1 of RFP]

Annex - 2

Deployment of Personnel

(Refer Clause 4.2)

(Reproduce as per Form-13 of Appendix-I)

Annex-3

Approved Sub-Consultant(s)

(Refer Clause 4.7.1)

(Reproduce as per Form-14 of Appendix-I)

Annex-4

Cost of Services

(Refer Clause 6.1)

(Reproduce as per Form-2 of Appendix-II)

Annex-5
Payment Schedule
(Refer Clause 6.3)

Key Date No.	Description of deliverables	Ref. Clause no.	Key Date	Payment
KD1	Inception Report and acceptance by Authority	5A	45	5%
KD2	Submission of Detailed Project Report(DPR) and acceptance by Authority	5B	240	10%
KD3	EIA Studies	5C	300	5%
KD4	Submission of Bid Documents and acceptance by authority	5D	240	10%
KD5	In principle approvals of mandatory clearances for setting up of power plants.	5G	300	10%
KD6	Assistance in Bid process Management	5E	400	10%
KD7	Mandatory site specific studies	5H	240	10%
KD8	Filing Regulatory petitions for power evacuation from thermal power plant to Authority's load centres	5I	700	10%
KD9	Finalization of JVA, MOA, AOA, for formation of SPV.	5J	730	10%
KD10	Signing of Power Purchase Agreement	5K	730	5%
KD11	Completion of services	5L	730	15%
Total				100%

Notes:

1. *Authority shall retain by way of performance security (the “Performance Security”), 5% (five percent) of all the amounts due and payable to the Consultant, to be appropriated against breach of this Agreement or for recovery of liquidated damages as specified in Clause 7.2 , Schedule -2, Form of Agreement. The balance remaining out of the Performance Security shall be returned to the Consultant at the end of three months after the expiration of the Agreement pursuant to Clause 2.4 thereof.*
2. *The Consultant may, in lieu of retention of the amounts as referred to above, furnish a Bank Guarantee from a Scheduled Bank in India substantially in the form specified at Annex-5 of the Agreement.*

|

Annex- 6

Bank Guarantee for Performance Security*(Refer Clause 7.1.2)*

To
 The President of India
 (acting through
 Executive Director, Electrical Energy Management)
 Ministry of Railways,
 Railway Board, Rail Bhavan
 New Delhi- 110 001

In consideration of Ministry of Railways acting on behalf of the President of India (hereinafter referred as the “the Authority”, which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators and assigns) having awarded to M/s _____, having its office at _____ (hereinafter referred as the “Consultant” which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns), a consultancy by issue of the Authority’s Agreement no. _____ dated _____ valued at Rs. _____ (Rupees _____) for providing Consultancy services for setting up of a 1320 MW Coal based Thermal Power Plant at Adra, West Bengal (hereinafter referred to as the “Agreement”), and the Consultant having agreed to furnish a Bank Guarantee amounting to Rs. _____ (Rupees _____) to the Authority for performance of the said Agreement.

We, _____ (hereinafter referred to as the “Bank”) at the request of the Consultant do hereby undertake to pay to the Authority an amount not exceeding Rs. _____ (Rupees _____) against any loss or damage caused to or suffered or would be caused to or suffered by the Authority by reason of any breach by the said Consultant of any of the terms or conditions contained in the said Agreement.

2. We, _____ (indicate the name of the Bank) do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the Authority stating that the amount/claimed is due by way of loss or damage caused to or would be caused to or suffered by the Authority by reason of breach by the said Consultant of any of the terms or conditions

contained in the said Agreement or by reason of the Consultant's failure to perform the said Agreement. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____ (Rupees _____).

3. We undertake to pay to the Authority any money so demanded notwithstanding any dispute or disputes raised by the Consultant in any suit or proceeding pending before any court or Tribunal relating thereto our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder and the Consultant shall have no claim against us for making such payment.

4. We, _____ (indicate the name of Bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the Authority under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till the Authority certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said Consultant and accordingly discharges this guarantee. Unless a demand or claim under this guarantee is made on us in writing on or before a period of [one year] from the date of this Guarantee, we shall be discharged from all liability under this Guarantee thereafter.

5. We, _____ (indicate the name of Bank) further agree with the Authority that the Authority shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extend time of performance by the said Consultant from time to time or to postpone for any time or from time to time any of the powers exercisable by the Authority against the said Consultant and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Consultant or for any forbearance, act or omission on the part of the Authority or any indulgence by the Authority to the said Consultant or any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us .

6. This guarantee will not be discharged due to the change in the constitution of the Bank or the Consultant(s).

7. We, _____ (indicate the name of Bank) lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Authority in writing.

Dated the _____ day of _____ 200* For _____

(Name of Bank)

Signature, Name and Designation of the Authorised Signatory)

Seal of the Bank:

NOTES:

- (i) The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee.
- (ii) The address, telephone no. and other details of the Head Office of the Bank as well as of issuing Branch should be mentioned on the covering letter of issuing Branch.

SCHEDULE-3

(See Clause 2.3.3)

Guidance Note on Conflict of Interest

1. This Note further explains and illustrates the provisions of Clause 2.3 of the RFP and shall be read together therewith in dealing with specific cases.
2. Consultants should be deemed to be in a conflict of interest situation if it can be reasonably concluded that their position in a business or their personal interest could improperly influence their judgment in the exercise of their duties. The process for selection of consultants should avoid both actual and perceived conflict of interest.
3. Conflict of interest may arise between the Authority and a consultant or between consultants and present or future concessionaires/suppliers/contractors. Some of the situations that would involve conflict of interest are identified below:
 - (a) Authority and consultants:
 - (i) Potential consultant should not be privy to information from the Authority which is not available to others;
 - (ii) potential consultant should not have defined the project when earlier working for the Authority;
 - (iii) potential consultant should not have recently worked for the Authority overseeing the project.
 - (b) Consultants and concessionaires/suppliers/contractors:
 - (i) No consultant should have an ownership interest or a continuing business interest or an on-going relationship with a potential concessionaire/supplier/contractor save and except relationships restricted to project-specific and short-term assignments; or
 - (ii) no consultant should be involved in owning or operating entities resulting from the project; or
 - (iii) no consultant should bid for works arising from the project.

The participation of companies that may be involved as investors or consumers and officials of the Authority who have current or recent connections to the companies involved, therefore, needs to be avoided.
4. The normal way to identify conflicts of interest is through self-declaration by consultants. Where a conflict exists, which has not been declared, competing companies are likely to bring this to the notice of the Authority.

All conflicts must be declared as and when the consultants become aware of them.

5. Another approach towards avoiding a conflict of interest is through the use of “Chinese walls” to avoid the flow of commercially sensitive information from one part of the consultant’s company to another. This could help overcome the problem of availability of limited numbers of experts for the project. However, in reality effective operation of “Chinese walls” may be a difficult proposition. As a general rule, larger companies will be more capable of adopting Chinese walls approach than smaller companies. Although, “Chinese walls” have been relatively common for many years, they are an increasingly discredited means of avoiding conflicts of interest and should be considered with caution. As a rule, “Chinese walls” should be considered as unacceptable and may be accepted only in exceptional cases upon full disclosure by a consultant coupled with provision of safeguards to the satisfaction of the Authority.
6. Another way to avoid conflicts of interest is through the appropriate grouping of tasks. For example, conflicts may arise if consultants drawing up the terms of reference or the proposed documentation are also eligible for the consequent assignment or project.
7. Another form of conflict of interest called “scope–creep” arises when consultants advocate either an unnecessary broadening of the terms of reference or make recommendations which are not in the best interests of the Authority but which will generate further work for the consultants. Some forms of contractual arrangements are more likely to lead to scope–creep. For example, lump-sum contracts provide fewer incentives for this, while time and material contracts provide built in incentives for consultants to extend the length of their assignment.
8. Every project contains potential conflicts of interest. Consultants should not only avoid any conflict of interest, they should report any present/potential conflict of interest to the Authority at the earliest. Officials of the Authority involved in development of a project shall be responsible for identifying and resolving any conflicts of interest. It should be ensured that safeguards are in place to preserve fair and open competition and measures should be taken to eliminate any conflict of interest arising at any stage in the process.

APPENDICES

APPENDIX-I

(See Clause 2.1.3)

TECHNICAL PROPOSAL

Form-1

Letter of Proposal

(On Applicant's letter head)

(Date and Reference)

To,
Executive Director, Electrical Energy Management
Ministry of Railways, Railway Board,
Room No. 102-A, Rail Bhavan,
Raisina Road, New Delhi-110001

Sub: Appointment of consultant for setting up of a coal based 1320 MW Coal based Thermal Power Plant at Adra, West Bengal.

Dear Sir,

1. With reference to your RFP Document dated *****, I/We, having examined all relevant documents and understood their contents, hereby submit our Proposal for appointment of consultant for Consultancy services for setting up of a coal based 1320 MW Thermal Power Plant at Adra, West Bengal. The proposal is unconditional and unqualified.
2. All information provided in the Proposal and in the Appendices is true and correct and all documents accompanying such Proposal are true copies of their respective originals.
3. This statement is made for the express purpose of appointment as the Consultant for the aforesaid Project.
4. I/We shall make available to the Authority any additional information it may find necessary or require to supplement or authenticate the Proposal.
5. I/We acknowledge the right of the Authority to reject our application without assigning any reason or otherwise and hereby waive our right to challenge the same on any account whatsoever.
6. I/We declare that:

- (a) I/We have examined and have no reservations to the RFP Document, including any Addendum issued by the Authority;
 - (b) I/We do not have any conflict of interest in accordance with Clause 2.3 of the RFP Document; and
 - (c) I/We have not directly or indirectly or through an agent engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as defined in Clause 4.3 of the RFP document, in respect of any tender or request for proposal issued by or any agreement entered into with MoR or any other public sector enterprise or any government, Central or State; and
 - (d) I/We hereby certify that we have taken steps to ensure that in conformity with the provisions of Clause 4 of the RFP, no person acting for us or on our behalf will engage in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice.
7. I/We understand that you may cancel the Selection Process at any time and that you are neither bound to accept any Proposal that you may receive nor to select the Consultant, without incurring any liability to the Applicants in accordance with Clause 2.7 of the RFP document.
8. I/We declare that We/any member of the consortium, are/ is not a Member of a/any other Consortium applying for Selection as a Consultant.
9. I/We certify that in regard to matters other than security and integrity of the country, we have not been convicted by a Court of Law or indicted or adverse orders passed by a regulatory authority which would cast a doubt on our ability to undertake the Consultancy for the Project or which relates to a grave offence that outrages the moral sense of the community.
10. I/We further certify that in regard to matters relating to security and integrity of the country, we have not been charge-sheeted by any agency of the Government or convicted by a Court of Law for any offence committed by us or by any of our Associates.
11. I/We hereby irrevocably waives any right which we may have at any stage at law or howsoever otherwise arising to challenge or question any decision taken by the Authority and / or the Government of India in connection with the selection of Consultant or in connection with the Selection Process itself, in respect of the above mentioned Project.
12. I/We agree and understand that the proposal is subject to the provisions of the RFP document. In no case, I/We shall have any claim or right of

whatsoever nature if the Consultancy for the Project is not awarded to me/us or our proposal is not opened.

13. I/We agree to keep this offer valid for 90 days from the Proposal Due Date specified in the RFP.
14. A Power of attorney in favour of the authorised signatory to sign and submit this Proposal and documents is also attached herewith in Form 4.
15. In the event of my/our being selected as the Consultant, I/We agree to enter into an Agreement in accordance with the format at Schedule – II of the RFP. We agree not to seek any changes in the aforesaid format and agree to abide by the same.
16. I/We have studied RFP and all other documents carefully and also surveyed the project site. We understand that except to the extent as expressly set forth in the Agreement, we shall have no claim, right or title arising out of any documents or information provided to us by the Authority or in respect of any matter arising out of or concerning or relating to the Selection Process including the award of Consultancy.
17. The Financial Proposal is being submitted in a separate cover. This Technical Proposal read with the Financial Proposal shall constitute the Application which shall be binding on us.
18. I/We agree and undertake to abide by all the terms and conditions of the RFP Document.

In witness thereof, I/we submit this Proposal under and in accordance with the terms of the RFP Document.

Yours faithfully,

(Signature of the Authorised Signatory)

(Name and designation of the Authorised Signatory)

(Name and seal of the Applicant / Lead Member)

APPENDIX-I

Form-2

Particulars of the Applicant

1.	Title of Consultancy: Appointment of consultant for setting up of a coal based 1320 MW Thermal Power Plant at Adra, West Bengal.
2.	Title of Project: Setting up of a coal based 1320 MW Thermal Power Plant at Adra, West Bengal
3.	<p>State the following:</p> <p>Name of Company or Firm:</p> <p>Legal status (e.g. incorporated private company, unincorporated business, partnership etc.):</p> <p>Country of incorporation:</p> <p>Registered address:</p> <p>Year of Incorporation:</p> <p>Year of commencement of business:</p> <p>Principal place of business:</p> <p>Brief description of the Company including details of its main lines of business</p> <p>Particulars of individual(s) who will serve as the point of contact/ communication with the Authority:</p> <p>(a) Name:</p> <p>(b) Designation:</p> <p>(c) Company:</p> <p>(d) Address:</p> <p>(e) Telephone Number:</p> <p>(f) E-Mail Address :</p> <p>(g) Fax Number:</p> <p>Name, Designation, Address and Phone Numbers of Authorised Signatory of the Applicant:</p> <p>Name:</p> <p>Designation:</p> <p>Company:</p> <p>Address:</p>

	Phone No.: Fax No. :
4.	State the following for each of the other Member Firms: (i) Name of Firm: (ii) Legal Status and country of incorporation (iii) Registered address and principal place of business.
5.	State the following information for each Member: i) In case of non Indian company, does the company have business presence in India? Yes/No If so, provide the office address(es) in India. ii) Has the Applicant or any member of the consortium been blacklisted by any Govt. department/Public Sector Undertaking in the last five years? Yes/No iii) Has the Applicant or any of the members, in case of a consortium, suffered bankruptcy/insolvency in the last five years? Yes/No Note: If answer to any of the questions at ii) to iii) is yes, the Applicant is not eligible for this consultancy assignment.
6.	Does the Applicant's firm/company (or any member of the consortium) combine functions as a consultant or designer along with the functions as a contractor and/or a manufacturer? Yes/No If yes, then for this work does the Applicant (and other member of the Applicant's consortium) agree to limit the Applicant's role only to that of a consultant/ designer and to disqualify themselves, their associates/ affiliates and/or parent organization subsequently from work on this project in any other capacity (including tendering relating to any goods or services for any part of this project) other than that of consultant and/or designer for the Authority? Yes/No

7.	<p>Does the Applicant intend to borrow or hire temporarily, personnel from contractors, manufacturers or suppliers for performance of the Consulting Services?</p> <p>Yes/No</p> <p>If yes, does the Applicant agree that it will only be acceptable as Consultant, if those contractors, manufacturers and suppliers disqualify themselves from subsequent execution of work on this project (including tendering relating to any goods or services for any other part of the project) other than that of the Consultant?</p> <p>Yes/No</p> <p>If yes, have any undertakings been obtained (and annexed) from such contractors, manufacturers, etc. that they agree to disqualify themselves from subsequent execution of work on this project and they agree to limit their role to that of consultant/ designer for the Authority only?</p> <p style="text-align: right;">Yes/No</p>
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APPENDIX-I
Form-3

Statement of Legal Capacity
(To be forwarded on the letter head of the Member)

Ref. Date:

To,

Executive Director, Electrical Energy Management
Ministry of Railways, Railway Board,
Room No. 102-A, Rail Bhavan,
Raisina Road, New Delhi-110001

Dear Sir,

We hereby confirm that we, the Applicant (along with other members in case of consortium, constitution of which has been described in the Proposal*), satisfy the terms and conditions laid out in the RFP process.

We have agreed that _____ (insert Applicant's name) will act as the Lead Member of our consortium.

We have agreed that _____ (insert individual's name) will act as our Authorised Representative/ will act as the Authorised Representative of the consortium on our behalf and has/have been duly authorized to submit the RFP. Further, the authorised signatory is vested with requisite powers to furnish such letter and authenticate the same.

Yours faithfully,

Authorised Signatory

For and on behalf of _____

**Please strike out whichever is not applicable*

APPENDIX-I

Form-4

Power of Attorney

Know all men by these presents, We, _____ (name of firm and address of the registered office) do hereby constitute, nominate, appoint and authorise Mr / Ms _____ son/daughter/wife and presently residing at _____, who is presently employed with us and holding the position of ***** as our true and lawful attorney (hereinafter referred to as the “Authorised Representative”) to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our Proposal for and selection as the Consultant for setting up of a coal based 1320 MW Thermal Power Plant at Adra, West Bengal but not limited to signing and submission of all applications, proposals and other documents and writings, participate in pre-bid and other conferences and providing information/ responses to the Authority, representing us in all matters before the Authority, signing and execution of all contracts and undertakings consequent to acceptance of our proposal and generally dealing with the Authority in all matters in connection with or relating to or arising out of our Proposal for the said Project and/or upon award thereof to us till the entering into of the Agreement with the Authority.

AND we do hereby agree to ratify and confirm all acts, deeds and things lawfully done or caused to be done by our said Authorised Representative pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Authorised Representative in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

IN WITNESS WHEREOF WE, _____ THE ABOVE NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS _____ DAY OF _____, 200*For

(Signature)

(Name, Title and Address)

Witnesses:

1.

[Notarised]

2.

Accepted

(Signature)

(Name, Title and Address of the Attorney)

Notes:

The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required the same should be under common seal affixed in accordance with the required procedure.

Also, wherever required, the Applicant should submit for verification the extract of the charter documents and documents such as a resolution/power of attorney in favour of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Applicant.

For a Power of Attorney executed and issued overseas, the document will also have to be legalised by the Indian Embassy and notarised in the jurisdiction where the Power of Attorney is being issued. However, Applicants from countries that have signed the Hague Legislation Convention 1961 need not get their Power of Attorney legalised by the Indian Embassy if it carries a conforming Appostille certificate.

APPENDIX-I
Form-5
Financial Capacity of the Applicant
 (Refer Clause 2.2.2 (B) of RFP)

S. No.	Financial Year	Annual Revenue (Rs./US \$ in million)
1.		
2.		
3.		

Certificate from the Auditor

This is to certify that ***** (name of the Applicant) has received the payments shown above against the respective years on account of professional fees.

Name of Authorised Signatory:

Designation:

Name of firm:

(Signature of the Authorised Signatory)

Seal of firm

Note:

1. Please do not attach any printed Annual Financial Statement.

APPENDIX-I

Form-6

Particulars of Key Personnel

Designation of Key Personnel	Name	Educational Qualification	Length of Professional Experience	Present Employment		No. of Eligible Assignments [#]
				Name of Firm	Employed Since	
Thermal Power Plant Expert (Team Leader), Thermal Power Project development expert , Commercial Expert Financial Consultant, Environmental Consultant and Legal Expert						

[#]Refer Form 9 of Appendix I Experience of Key Personnel

APPENDIX-I

Form-7

Proposed Methodology and Work Plan

The descriptive part of submission under this will be detailed precisely under the following topics.

- 1) Understanding of TOR not more than two pages
The Applicant will submit his understanding of the TOR specified in the RFP in a brief manner underlying the crucial and important aspects of it. The Applicant may supplement various requirements of the TOR if he considers this would bring more clarity and improvements over the existing requirements and assist in achieving the Objectives laid down in the TOR.
- 2) Methodology and Work Plan not more than three pages
The Applicant will submit his methodology for carrying out this assignment, outlining his approach toward achieving the Objectives laid down in the TOR. The Applicant will submit a brief write up on their proposed team and organization of personnel explaining how various areas of expertise needed for this assignment have been fully covered by their proposal. The Applicant should specify the sequence and locations of important activities, and quality assurance plan for carrying out the Consultancy Services.

APPENDIX-I

Form-8

Experience of the Applicant[#]

(Refer Clause 3.1)

S.No	Name of Project	Name of Client	Estimated capital cost of Project (in Rs. crore/ US\$ million)	Payment ^{##} of professional fees received by the Applicant (in Rs. crore)
(1)	(2)	(3)	(4)	(5)
1				
2				
3				
4				

The Applicant should provide details of only those projects that have been successfully executed by it under its own name.

Exchange rate should be taken as Rs. 50 per US \$ for conversion to Rupees.

* The names and chronology of Eligible Projects included here should conform to the project-wise details submitted in Form-10 of Appendix-I.

Certificate from the Statutory Auditor^{\$}

This is to certify that the information contained in Column 5 above is correct as per the accounts of the Applicant and/ or the clients.

Name of the audit firm:

Seal of the audit firm

Date:

(Signature, name and designation of the authorised signatory)

^{\$} In case the Applicant does not have a statutory auditor, it shall provide the certificate from its chartered accountant that ordinarily audits the annual accounts of the Applicant.

Note: The Applicant may attach separate sheets to provide brief particulars of other relevant experience of the Applicant.

APPENDIX-I

Form - 9

Experience of Key Personnel

(Refer Clause 3.1)

Name of Key Personnel:

Designation:

S.No	Name of Project*	Name of Client	Estimated capital cost of project (in Rs. cr./ US\$ million)	Name of firm for which the Key Personnel worked	Designation of the Key Personnel on the assignment	Date of completion of the assignment	Mandays spent
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

@ Use separate Form for each Key Personnel.

* The names and chronology of projects included here should conform to the project-wise details submitted in Form-8 of Appendix-I.

Note: The Applicant may attach separate sheets to provide brief particulars of other relevant experience of the Key Personnel.

APPENDIX-I**Form-10****Eligible Assignments of the Applicant**

(Refer Clause 3.1.4)

Name of Applicant:	
Name of the Project:	
Description of services performed by the Applicant firm:	
Name of client and Address: (Indicate whether public or private entity)	
Name, telephone no. and fax no. of client's representative:	
Estimated capital cost of Project (in Rs crore or US\$ million):	
Payment received by the Applicant (in Rs. crore):	
Start date and finish date of the services (month/ year):	
Brief description of the Project:	

Notes:

1. Use separate sheet for each Eligible Project.
2. The Applicant may attach separate sheets to provide brief particulars of other relevant experience of the Applicant.
3. Exchange rate should be taken as Rs. 50 per US \$ for conversion to Rupees.

APPENDIX-I

Form-11

Eligible Assignments of Key Personnel

(Refer Clause 3.1.4)

Name of Key Personnel:	
Designation of Key Personnel:	
Name of the Project:	
Name of Consulting Firm where employed:	
Description of services performed by the Key Personnel (including designation):	
Name of client and Address: (indicate whether public or private)	
Name, telephone no. and fax no. of client's representative:	
Estimated capital cost of the Project (in Rs crore or US\$ million):	
Start date and finish date of the services (month/ year):	
Brief description of the Project:	
<p>It is certified that the aforesaid information is true and correct to the best of my knowledge and belief.</p> <p style="text-align: right;">(Signature and name of Key Personnel)</p>	

Notes:

1. Use separate sheet for each Eligible Project.
2. The Applicant may attach separate sheets to provide brief particulars of other relevant experience of the Key Personnel.
3. Exchange rate should be taken as Rs. 50 per US \$ for conversion to Indian Rupees.

APPENDIX-I

Form-12

Curriculum Vitae (CV) of Key Personnel

1. Proposed Position:
2. Name of Personnel:
3. Date of Birth:
4. Nationality:
5. Educational Qualifications:
6. Employment Record:
(Starting with present position, list in reverse order every employment held.)
7. List of projects on which the Personnel has worked

Name of project

Description of responsibilities

8. Details of the current assignment and the time duration for which services are required for the current assignment.

Certification:

- 1 I am willing to work on the Project and I will be available for entire duration of the Project assignment as required.
- 2 I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes me, my qualifications and my experience.

(Signature and name of the Key Personnel)

Place.....

(Signature and name of the authorised signatory of the Applicant)

Notes:

1. Use separate form for each Key Personnel
2. The names and chronology of assignments included here should conform to the project-wise details submitted in Form-8 of Appendix-I.

3. Each page of the CV shall be signed in ink and dated by both the Personnel concerned and by the Authorised Representative of the Applicant firm along with the seal of the firm. Photocopies will not be considered for evaluation.

APPENDIX-I
Form-13
Deployment of Personnel

S.No.	Designation	Name	Man-Days (MD)		Week Numbers																				
			At Project site	Away from Project site (specify)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1.																									
2.																									
3.																									
4.																									
5.																									
6.																									
7.																									
8.																									
9.																									
10.																									
11.																									
Total Man days																									

APPENDIX-I**Form-14****Proposal for Sub-Consultant(s)**

1. Details of the Firm				
Firm's Name, Address and Telephone				
Name and Telephone No. of the Contact Person				
Fields of Expertise				
No. of Years in business in the above Fields				
2. Services that are proposed to be sub contracted:				
3. Person who will lead the Sub- Consultant Name: Designation: Telephone No: Email:				
4. Details of Firm's previous experience				
Name of Work	Name, address and telephone no. of Client	Total Value of Services Performed	Duration of Services	Date of Completion of Services
1.				
2.				
3.				

(Signature and name of the authorized signatory)

Note:

3. The Proposal for Sub-Consultant(s) shall be accompanied by the details specified in Forms 12 and 13 of Appendix –I.
4. Use separate form for each Sub-Consultant

APPENDIX-II
FINANCIAL PROPOSAL

Form - 1

Covering Letter

(On Applicant's letter head)

(Date and Reference)

To,

Executive Director, Electrical Energy Management

Ministry of Railways, Railway Board,

Room No. 102-A, Rail Bhavan,

Raisina Road, New Delhi-110001

Dear Sir,

Subject: Appointment of consultant for setting up of a coal based 1320 MW Thermal
Power Plant at Adra, West Bengal

I/We, ***** (Applicant's name) herewith enclose the Financial Proposal for
selection of my/our firm as Consultant for above.

I/We agree that this offer shall remain valid for a period of 90 (ninety) days from the
Proposal Due Date or such further period as may be mutually agreed upon.

Yours faithfully,

(Authorised Representative)

Name:

Designation:

Address:

Note: The Financial Proposal is to be filled strictly as per the forms given in RFP.

Form-2
Financial Bid
Schedule of Rates and Quantities

Scope of Work: Consultancy for Setting up of 1320MW Coal based Thermal Power Plant at Adra, West Bengal.

Period of Completion:

SN	Description of item	Qty.	Rate	
			(in words)	(in nos.)
1	2	3	4	5
	Consultancy services for setting up of 1320 MW coal based thermal power plant at Adra As per Terms of Reference (TOR) and deliverables defined in Schedule I Para 1.0 and 3.0	Lump sum		

Notes:

1. Consultant shall quote rates both in figures and words in Indian Rupees only.
2. The consultant shall quote rate lump sum for entire contract and complete the job as TOR defined in Schedule I Para 3.0. The rates quoted shall be inclusive of all terms, services tax, income tax and any other tax leviable as per extant rules.
3. The lump sum rate shall include all site visits, Railways offices and other authorities and including all miscellaneous expenditure.

I/We agree to abide by terms and conditions at payment schedules as well as General conditions of contract as evolved.

Dated:

(Signature of Consultant)
Name of Consultant

APPENDIX-III

PRE FEASIBILITY REPORT AND REGION WISE CONSUMPTION DETAILS OF RAILWAY
LOAD CENTERS.

PRE - FEASIBILITY REPORT

1000 MW/ 1320 MW CAPACITY

ADRA THERMAL POWER PROJECT

OPTION-I (2X500 MW)/ OPTION –II (2X660 MW)

CONSULTANT



PRE-FEASIBILITY REPORT

TABLE OF CONTENT

CLAUSE NO.	TITLE	PAGE NO.
1.0.0	INTRODUCTION, BACKGROUND & PROJECT HIGHLIGHTS	2
2.0.0	DEMAND ANALYSIS & JUSTIFICATION	5
3.0.0	PLANT SYSTEMS	6
4.0.0	ENVIRONMENTAL ASPECTS	9
5.0.0	PROJECT COST & COST OF ENERGY	10
6.0.0	CONCLUSION	11

LIST OF EXHIBIT

SL.NO.	DESCRIPTION	EXHIBIT
1.	VICINITY PLAN	1
2.	TYPICAL GENERAL LAYOUT PLAN (OPTION-I & II)	2A & 2B.

PRE-FEASIBILITY REPORT

.1 INTRODUCTION & BACKGROUND

Power development is one of the key infrastructural elements for the economic development of the country. National Thermal Power Corporation Ltd. was set up in November, 1975 with the objective of planning, promoting and organizing integrated development of thermal power in the country. Central Electricity Authority (CEA) is the nodal agency for centralize planning of generation and transmission system.

In recent years, power development has assumed paramount importance in view of its role in rapid development of industry, agriculture and service sector in the country. The installed capacity of the country that was only 1713 MW in 1950 has already grown to around 1,47,458 MW by March, 2009.

As per meeting on 02.01.2002 between Hon' ble Minister of Power and Hon' ble Minister of Railways, it Was agreed that Railways would consider setting up of power project (in joint venture with NTPC to meet its traction and nontraction requirement of Power).

Accordingly, Nabinagar TPP (4X250 MW) was identified a joint venture project. Cabinet Commtee on Economic Affairs (CCEA) accorded approval with equity participation of NTPC as 74% and Railways as 26% respectively. The JV company namely Bhartiya Rail Bijlee Company Limited was incorporated on 12.04.07. Nabinagar TPP (4X250 MW) is presently under implementation stage.

Railways have shown keen interest for the installation of large capacity coal based Thermal Power Plant (TPP) near Adra (West Bengal) for their captive use. Director (EE), Railway board vide letter dated 10.07.09 requested NTPC for preparation of Pre Feasibility Report (Pre FR) for setting up a 1000 MW TPP at Adra, W.B. Accordingly, a team from NTPC along with members from Railways visited the site to examine the feasibility aspects.

Subsequently, in line with the discussions with Railway Board, the Pre FR has been formulated considering two options for consideration and finalization of plant configuration by Railway Board. The Option-I is for 2X500 MW (sub- critical with higher reheat temperature) coal based TPP under and Option-II is for 2X660 MW super critical TPP.

.1.1 PRESENT PROPOSAL:

The present proposal is for Pre-FR for coal based TPP at Adra. Two options has been indicated in the Pre-FR i.e.

Option-I – 1000 MW (2 units of 500 MW sub-critical units with higher reheat temperature of 568° C)

Option-II - 1320 MW (2 units of 660 MW, super critical units)

Railway Board may review the above options and decide upon the project capacity based on availability of basic inputs (like land, water & fuel), power requirement of Railways for captive use, project financials etc.

1.2.2 PROJECT HIGHLIGHTS

1.2.2.1 LOCATION AND APPROACH

The proposed Site is located near Adra (about 3 Kms from Adra railway station on Howrah-Adra via Kharagpur Line) in Purulia district of West Bengal.

The main railway line is adjacent to the proposed Site. The nearest National

Highway is NH-2 which is about 45 kms from the proposed Site. The Site is within the Damodar Valley Corporation (DVC) command area (Vicinity Plan of the project site is enclosed at Exhibit-I)

1.2.2.2 AIRPORT

The nearest commercial airport is at Ranchi, located at a distance of approximately 200 Kms from the project site. The Kolkata Airport is about 290 kms. from the project site.

1.2.2.3 LAND

Railways have about 1000 Acres of land in possession, which is proposed for setting up of the project. The land had been afforested by Forest Department as per agreement in 1984. At present the proposed land comprises of well matured trees. As the site is adjoining main railway line, after leaving requisite distance from the line as per MOEF norms, the remaining land will be about 700 Acres, wherein only plant & township facilities can be accommodated. Hence, additional land for ash disposal is to be acquired within close proximity from proposed site. The land is almost flat with local undulations seen at Site. Sandy type of soil is visible at Site with probability of rock at a depth of about 5m as per information made available at Site.

The break up of the land requirement for Option-I & Option-II are as follows:

Option-I (2X500 MW)

Plant area & Township : 650 Acres (Approx.)

Green Belt : 80 Acres

Ash Disposal Area : 500 Acres (Approx.)

Typical General Layout Plan

(GLP) is placed at Exhibit 2A

Option-II (2X660 MW)

Plant : 710 Acres (Approx.)

Green Belt : 80 Acres

Ash Disposal Area : 600 Acres (Approx.)

Typical General layout Plan (GLP) is placed at Exhibit 2B

Railway to identify additional land for ash disposal as above.

1.2.2.4 MAKE UP WATER

The water requirement of the project is about 40 cusecs for 1000 MW capacity (option-I) and 55 cusecs for 1320 MW capacity (option-II). The nearest river is Dwarakeswar River which is about 7 Kms from the Site. The river is non-perennial and is almost dry. The availability of water from the Panchet dam reservoir about 40 kms from Site and Maithon dam reservoir about 55 Kms from the Site on river Damodar & Barakar respectively were examined. Both the reservoirs are under control of "Damodar Valley River Regulation Committee"(DVRRC). As discussed with officials of DVC, the water cannot be made available from these reservoirs as the allocations from these have already been exhausted. Hence, availability of water needs to be established by Railways after discussion with DVRRC for making the project feasible.

1.2.2.5 FUEL REQUIREMENT AND AVAILABILITY

The annual coal requirement would be about 5.6 million tones per annum considering GCV of 3400 kcal/kg for 1000 MW project (Option-I) and 7.42 mtpa for 1320 MW project (Option-II).

Coal is proposed to be transported upto project site through existing railway network. However, railway siding has to be provided from the nearest railway station for bringing coal & other material within the plant.

1.2.2.6 MODE OF OPERATION

Base Load

1.2.2.7 POWER EVACUATION, START-UP & CONSTRUCTION POWER

Power evacuation arrangement of the project would be finalised in the relevant Regional Standing committee meetings on power system planning/ open Access forums based on beneficiaries and type of project (Regional/

captive etc.). It is expected that Railways would be the major beneficiaries from the project. Considering the plant capacity as 1000 MW the step up/ power evacuation voltage is envisaged as 400 kV. Start up power requirement of the project would be availed at appropriate voltage level depending upon size of units/ ATS finalised/ connectivity with nearby sources.

Construction power requirements for the project can be met from the 33/11 kV Adra Substation of WBSEDCL through (02) two nos. of 33kV lines.

1.2.2.8 PROJECT IMPLEMENTATION SCHEDULE

a) Option-I

COD of 1st unit of 500 MW is envisaged in 42 months from the date of Main Plant award and 2nd unit at an interval of 6 months thereafter.

a) Option-II (2X660 MW)

COD of 1st 660 MW unit is envisaged in 52 months from main plant award and second unit at an interval of 6 months thereafter.

2.0.0 DEMAND ANALYSIS AND JUSTIFICATION

2.1.0 GENERAL

Coal based Thermal Power Plant near Adra (West Bengal) would be set-up for captive use for meeting the traction & non traction power demand of Railway. The surplus power, if any, may be allocated to the other willing beneficiaries of Eastern Region after meeting the demand of Railways.

2.2.0 demand SUPPLY Estimation (11th and 12th Plan)

The demand scenario of the country at the end of 11th Plan with addition of 78577 MW as per latest publication of Electrical Power Survey (EPS-17) published by CEA is presented below:

Demand & Supply Scenario at the End of 11th Plan

Region	Availability at the end of 11 th Plan		Demand As per EPS 17 th Forecast			
	Energy (MU)	Peak (MW)	Energy (MU)	Deficit/ Surplus (%)	Peak (MW)	Deficit/ Surplus (%)
NR	282905	41103	294841	-4.05	48137	-14.61
WR	281691	40926	294860	-4.47	47108	-13.12
SR	250918	36456	253443	-1.00	40367	-9.69
ER	167490	24334	111802	49.81	19088	27.49
NER	32754	4759	13329	145.73	2537	87.57
I'LAND	388	56	384	1.03	88	-35.95

S						
Total	1016146	147634	968659	4.90	157325	- 6.16

From the above, it is observed that the peak deficit still exists at the end of 11th Plan to the extent of **6.16 %**.

2.3.0 DEMAND & SUPPLY SCENARIO AT THE END OF 12TH PLAN

Demand & Supply Scenario at the end of 12th Plan with the addition of 86500 MW and enhanced performance has been worked out and presented below.

Demand & Supply Scenario at the End of 12th Plan

Region	Availability at the end of 12 th Plan		Demand As per EPS 17 th Forecast			
	Energy (MU)	Peak (MW)	Energy (MU)	Deficit/Surplus (%)	Peak (MW)	Deficit/Surplus (%)
All India	1432903	208184.3	1392066	2.93	223662	- 6.92

4.0 From the above Tables, it can be seen that there is overall peak deficit of 6.16 % and 6.92 % exist in the country in 11th & 12th Plans respectively.

The National Electricity Policy has set up the goal of adding new generation capacity to not only eliminate energy and peaking shortages but to have a spinning reserve of 5% in the system. In view of the above and considering that the proposed TPP at Adra will be implemented by Railways preliminarily to meet its captive demand, the Thermal Power Project Planned to be commissioned in 12th Plan, is therefore, justified from demand supply consideration.

3.0.0 PLANT SYSTEMS

3.1.0 STEAM GENERATOR

3.1.1 OPTION-I (2x500 MW) : The Steam Generators (S.G.) shall be drum type (natural or assisted circulation) or sub-critical once through water turbine, direct pulverized coal-fired single reheat type. The main parameters of 100% BMCR with 20% throttle margin (Steam Press: 179 Kg/cm² (a), Temp.: 540 °C and Reheat Temp.: 568 °C).

3.1.2 OPTION-II (2X660 MW): The Steam Generator (SG) shall be once through water tube, direct pulverized coal fired, top supported. The gas path arrangement shall be single pass (tower type) or two pass type. The main parameters at 100% BMCR (Steam Press: 256 Kg/cm² (abs), Temp.: 568 °C and Reheat Temp. 293 °C)

3.2.0 STEAM TURBINE:

3.2.1 OPTION- I (2X500 MW): The steam turbine shall be tandem compound single reheat regenerative, condensing multi-cylinder with separate HP, IP & LP casings or combined HP & IP and separate LP casing directly coupled with Generator.

3.2.2 OPTION – II (2X660MW): The plant would be designed to operate as a base load station. The turbine design shall cover adequate provision for quick start up and loading of the units to full load at a fast rate.

3.3.0 WATER SYSTEMS AND PLANT UTILITIES:

Raw water is proposed to be used for meeting the complete water requirement of the Project.

3.3.1 Water Requirement:

The make-up water requirement:

Option-I (2x500 MW) - about 4000 cum/hr (40 cusecs)

Option-II (2x600 MW) - about 550 cum/hr.(55 Cusecs)

3.3.2 Circulating Water System:

Closed cycle CW system with IDCT or NDCT shall be provided. For the recirculating type CW system, it is proposed to supply clarified water as make-up. Clarified water shall be supplied from the water pre-treatment plant to the cold water channel of CW system by pumps installed in the water pre-treatment plant. One common circulating water pump house for the two units shall be provided.

3.3.2 Water Treatment System

The water treatment systems of the project comprise of Water Pre-treatment Plant, Water Demineralising Plant, chlorination Plant, C.W Treatment Plant and Ash Water Re-circulation System.

3.4.0 ASH HANDLING SYSTEM:

3.4.1 The bottom ash shall be extracted and disposed off in wet form. The fly ash shall be extracted in the dry form from the Electrostatic Precipitator (ESP) hoppers. From the Bottom Ash Slurry Disposal Pump House, B.A. & Coarse Ash slurry shall be pumped to the ash dyke by BA Slurry Pumps.

3.4.2 Fly Ash Handling System

Pneumatic Conveying System shall be employed for extraction of fly ash from the ESP hoppers in the dry form.

3.4.3 Water Demineralization Plant

DM Plant shall be sized to meet the make-up water requirement of the steam cycle.

3.4.4 Chlorination Plant

Chlorination Plant shall be provided for chlorine dosing in the C.W. System to avoid the growth of algae and bacteria.

3.4.5 Effluent Treatment Plant

The liquid effluents shall be collected and treated / recycled generally as per the regulatory requirements.

3.4.6 Fire Detection & Protection System

A comprehensive Fire Detection and Protection System is envisaged for the complete power station. The system shall generally conform to the recommendations of the TAC (India) / IS:303A & NFPA-850.

3.5.0 PLANT & INSTRUMENT AIR SYSTEM

For service air and Instrument air requirement of main plant and auxiliaries air compressors of required capacity shall be provided.

3.6.0 AIR-CONDITIONING & VENTILATION

Air-conditioning system shall be provided for all those areas which require close control of environment conditions.

3.7.0 POWER EVACUATION

ADRA TPP will comprise of two units each of capacity of either 500 MW or 660 MW. In view of the plant capacity being in the range of 1000-1320 MW the Power evacuation voltage level of the project has been envisaged as 400 KV. Power Generated from each

500/660MW unit would be stepped up to the evacuation voltage level through suitably rated Generator Transformer. The power evacuation voltage as proposed is tentative and shall be as per finalized ATS of the project.

- 3.7.1** Power evacuation arrangement of the project would be finalized in the relevant Regional Standing committee meetings on power system planning/ open access forums based on beneficiaries and type of project (Regional/ captive etc.). It is expected that the Indian Railways would be the major beneficiary from the project.

3.8.0 SWITCHYARD

Conventional outdoor switchyard has been considered for the project. It is proposed to adopt the standard breaker and half switching scheme for 400kV switchyard and double bus switching scheme for 132kV switchyard.

3.9.0 GENERATOR

The main parameters of Generator would be as follows:

	Option-I	Option-II
a) Nominal rating	500 MW	660 MW
b) Rated output	588 MVA	776 MVA

3.10.0 BUSDUCT

The generator would be connected with its step up generator transformer through isolated phase busducts. The busduct shall be continuous enclosure, natural cooled type and shall be equipped with air pressurisation system. The busduct will have an all aluminum construction.

3.11.0 ELECTRICAL CONTROL CONCEPT

On the operation desk CRT's/Keyboard shall be provided so that operator can control all the breakers via DDCMIS.

3.12.0 BLACK START FACILITY

The arrangement to get the black start-up power from the Grid shall be as per the RLDC's startup procedure of the region. Hence no separate dedicated black start facility is being envisaged for this project.

3.12.0 CONTROL & INSTRUMENTATION SYSTEM

The function of the control & Instrumentation System would be to aid the operator in achieving safe and efficient operation of the unit resulting in cost effective power generation with optimum fuel consumption and reduced emission levels.

3.12.1 UNIT CONTROL & MONITORING PHILOSOPHY

As per the currently used practices for main plant control, Large video Screens (LVS) would be provided for all regimes of operation. A Control Desk (CD) for mounting monitors / Keyboards (KBDs) would also be provided which shall generally be used as a back-up for all regimes of operation.

3.12.2 DISTRIBUTED DIGITAL CONTROL, MONITORING & INFORMATION SYSTEM (DDCMIS)

In line with current practices, microprocessor based Distributed Digital Control, Monitoring & Information System (DDCMIS) would be provided for the safe, reliable and efficient operation of Steam Generator (SG), Turbine Generator (TG) and Balance of Plant (BOP) and all auxiliaries.

4.0.0 ENVIRONMENTAL ASPECTS

4.1.0 STATUTORY CLEARANCES

The Terms of Reference (TOR) of Environmental Impact Assessment (EIA) study is required to be got approved from Ministry of Environment & Forest (MOEF) as per latest notification and thereafter EIA study for the proposed Adra Power Project need to be undertaken for conducting public hearing and obtaining necessary statutory clearances. The EIA report shall also include the proposed Environmental Management Plan.

The clearance for felling of about 2-3 lacs full grown trees is required to be obtained from the forest department/MOEF.

4.2.0 POLLUTION CONTROL MEASURES

To minimise the impact of operation of the proposed plant on the surrounding environment, the following pollution control measures are proposed for the project.

4.3.0 WATER POLLUTION

Liquid effluents generated from the project would consist of pre-treatment plant waste, demineraliser regeneration waste, condenser cooling water, routine floor washing waste, sanitary waste etc. The demineraliser wastes would be neutralized. The clarifier sludge would be separately taken to a sludge treatment plant for removal of solids. Clear water from the sludge treatment system would be recycled back to the clarifiers.

4.4.0 AIR POLLUTION

ESP : High Efficiency ESP shall be provided to limit the particulate emissions within the stipulated norms. Stack of 275 mtr heights will be provided for wider dispersion of gaseous emission in line with the requirements of the regulatory agencies. Space provision shall be kept in the layout for retrofitting FGD in future if required.

4.5.0 NOISE POLLUTION

The equipment shall be designed for a noise level of 85 dB (A). Further, personnel protection devices shall be provided to all personnel working in noise prone areas.

4.6.0 AFFORESTATION

Extensive afforestation will be undertaken at the project site. Apart from improving the aesthetics, the plants would act as a barrier for fugitive dust and noise generated at the project. Accordingly, plantation of suitable species in all available open spaces in the project area will also be undertaken.

4.7.0 POST OPERATIONAL MONITORING PROGRAMME

A post operational monitoring programme will be designed and will include monitoring of stack emissions, effluent quality, ambient air quality, noise etc. Monitoring locations shall be finalized in consultation with the concerned authorities. The site shall be equipped with necessary instruments/equipment for sampling and analysis.

4.8.0 INSTITUTIONAL SET UP

Environmental Management Group (EMG) shall be established at site for supervising the environmental activities during operational phase.

4.9.0 CLEAN DEVELOPMENT MECHANISM (CDM)

It is envisaged to take up option-I (2x500 MW sub-critical units) with higher reheat temp. of 568 °C. or option-II (2x660 MW), super critical technology (MS

Pr. 258 Kg/Cm²; MS tempr. 568 °C reheat tempr. 596 °C as against conventional MS Pressure 170 Kg/Cm²; MS tempr. : 537 °C; RS tempr. 537 °C) for 500 MW sub critical units.

Adoption of higher cycle parameters will improve power plant efficiency and thereby reduce coal consumption per unit of electricity generation with consequent reduction in CO₂ emissions.

The adoption of above parameters shall meet the CDM additionality.

5.0.0 PROJECT COST & COST OF ENERGY

5.1.0 PROJECT COST (CONSIDERING MEGA PROJECT)

a) Option-I (2X500 MW)	:	Rs. 64.5 Million/MW
b) Option-II (2X660 MW)	:	Rs. 65.5 Million/MW

5.2.0 COST OF ENERGY (COE)

a) Option-I (2X500 MW)

1st full year Opn.	:	281 Paise/kWh
Fixed Charges	:	
Variable Charges	:	201 Paise/kWh 80 Paise/kWh
Levellised	:	253 Paise/kWh

Option-II (2X660 MW)

1st full year Opn.	:	284 Paise/kWh
Fixed Charges	:	207 Paise/kWh
Variable Charges	:	77 Paise/kWh
Levellised	:	258 Paise/kWh

5.3.0 BASIS OF COST ESTIMATE

The above estimates are for the purposes of Pre-FR without any detailed estimation of BOQ. However, the detailed cost estimates and financial analysis to be carried out during Feasibility Report stage based on the site specific data / BOQ.

5.4.0 ASSUMPTIONS

The COE as above is based on Debt-Equity ratio of 80:20. Domestic Commercial Borrowing has been considered for debt portion @ 11.5% interest. 16% return on equity as per CERC norms considering 25 years life of the plant and project completion schedule as envisaged in CERC.

6.0.0 CONCLUSION

As brought out in the preceding clauses, the implementation of 2x500 MW sub-critical units or 2x660 MW super critical units may be considered by Railways at Adra. For both the options, the COE would be lower than the power tariff being paid by Railways. The excess power, if any, after captive consumption by Railways could be supplied to the grid since Demand- Supply gap exists in the country. The project shall meet CDM additionality and is likely to generate CDM

revenue. However, 2x660 MW project is recommended in view of efficiency considerations.

The following key aspects need to be addressed by Railways to make the project feasible:

- 1) Considering minimum distance to be maintained from railway line, the balance land would be sufficient for establishing plant and township facilities only. Hence, additional land for ash dyke (about 500 acres for option-I and 600 acres for option-II) needs to be identified in the near by vicinity.
- 2) The availability of water is critical issue, since DVC officials during the site visit indicated that water cannot be allocated from Panchet and Maithon reservoirs. Railways need to take up with DVRRC for firm water commitment.
- 3) The long term coal linkage or allocation of captive coal block to be obtained by railways.
- 4) Forest has been developed in the identified land. Clearance for felling of about 2-3lacs full grown trees is required to be obtained from the forest department/MOEF.
- 5) Since, the proposed Site falls within the command area of Damodar Valley Corporations, NOC/clearance is required to be obtained from DVC.
- 6) The project cost and cost of Energy indicated in the Pre-FR are Indicative and are not based on detailed design and BOQ.

The enclosed Layout drawings and vicinity plan are indicative and typical only. Detailed layouts will be developed based on site specified studies indicating Topographical survey, Geotechnical Investigations and other studies at the detailed feasibility stage.

REGION WISE CONSUMPTION DETAILS OF RAILWAYS'S LOAD CENTERS

Sheet -1

[illegible]

		Sheet - 2																								
RAILWAY	DIVISION	MBE(B/C)	TA/VA(B/C)	TA/VA(A/C)	MBE(B/A/C)	MPSEB	UPCL	UPCL	HYPN	WBSEB	DVC	BSEB	DVB	PEB	WTPC	TNEB	APTRANSCO	KPTCL	KSEB	GRDCO	JSB	CSEB	GEB	REB	TOTAL	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
ECR	DHN	-	-	-	-	-	-	-	-	-	7	1	-	-	-	-	-	-	-	-	3	-	-	-	11	
	MGS	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	6	
	DNR	-	-	-	-	-	-	1	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	8	
	TOTAL	0	0	0	0	0	0	1	0	0	7	14	0	0	0	0	0	0	0	0	3	0	0	0	25	
ECoR	WAT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	6	-	6	-	-	20	
	KUR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	8	-	-	-	-	19	
TOTAL		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	14	0	6	0	0	30	
NCR	ALD	-	-	-	-	-	-	11	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	26	
	JHS	-	-	-	-	4	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5		
	AGC	-	-	-	-	-	-	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	5	
TOTAL		0	0	0	0	4	0	15	1	0	0	0	0	0	15	0	0	0	0	0	0	0	0	1	36	
SECR	BSP	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	10	-	-	13	
	NGP	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	6	
	RAIPUR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	3	
TOTAL		0	0	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	15	0	0	22	
SWR	SBC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	2	
	MAS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	
TOTAL		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	3	
WCR	JBP	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	
	BPL	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	
	KTY	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	8	
TOTAL		0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	20	
GRAND TOTAL		25	51	5	35	33	1	17	6	21	12	14	2	7	15	19	42	2	8	24	17	21	12	8	397	

Region wise consumption details of Load Center
Details of AC Traction sub Stations

Sheet : 3

SN	Railway	Division	Location TSSPP	Grid available TSSPP in kV	Type-owned supply at Railway SEBs	No. of existing transformer with capacity (MVA)	Power Supply Authority	Contracted Maximum Demand (MVA)	Average Recorded Maximum Demand during 2008-09 (MVA)	Average monthly energy consumption during 2008-09 in million units
1	2	3	4	5	6	7	8	9	10	11
1	C.R.	BSL	Dongarion	132	Railway	2*1.6MVA	MPSEB	17	13.7	2.47
2	C.R.	BSL	Burhanpur	132	Railway	1*21.6,1*12.5 MVA	MPSEB	15	14.308	2.98
3	C.R.	BSL	Igatpur PP	25	Railway	2*12.5MVA	MSEB		N.A	2.58
4	C.R.	BSL	Nasik Rd FP**	25	MSEB	3*10.8 MVA Score connected	MSEB		N.A	0.81
5	C.R.	BSL	Mannad FP**	25	MSEB	3*10.8 MVA Score connected	MSEB		N.A	0.2
6	C.R.	BSL	Chalisgaon FP**	25	MSEB	3*10.8 MVA Score connected	MSEB		N.A	1.86
7	C.R.	BSL	Pachora FP**	25	MSEB	3*10.8 MVA Score connected	MSEB		N.A	1.45
8	C.R.	BSL	Rhusavli FP	25	Railway	1*12.5&1*13.5/20 MVA	MSEB		N.A	1.22
9	C.R.	BSL	Makapur	132	Railway	2*13.5/20 MVA	MSEB	10	8.541	4.24
10	C.R.	BSL	Jalamb	132	Railway	2*13.5/20 MVA	MSEB	10	6.834	2.57
11	C.R.	BSL	Akota	132	Railway	2*13.5/20 MVA	MSEB	10	11.229	2.48
12	C.R.	BSL	Murtzapur	132	Railway	2*13.5/20 MVA	MSEB	10	9.605	2.4
13	C.R.	BSL	Bhadli	220	Railway	2*21.6 MVA	MSEB	20	19.717	5.41
14	C.R.	BSL	Lasalgion	132	Railway	2*21.6 MVA	MSEB	7	11.445	3.19
15	C.R.	BSL	Pimpenkheda	132	Railway	2*21.6 MVA	MSEB	7	14.818	4.05
16	C.R.	NGP	Kala Ashar	220	Railway	2*13.5/20 MVA	MPSEB	13	11.634	2.19
17	C.R.	NGP	Pandhuma	132	Railway	2*13.5/20 MVA	MPSEB	23	22.267	3.46
18	C.R.	NGP	Mutta	132	Railway	1*13.5/20&1*21.6 MVA	MPSEB	14	12.705	2.21
19	C.R.	NGP	Betul	132	Railway	2*13.5/20 MVA	MPSEB	22	19.463	3.73
20	C.R.	NGP	Ghoradongri	132	Railway	2*13.5/20 MVA	MPSEB	12	9.883	1.71
21	C.R.	NGP	Wardha	220	Railway	2*20 MVA	MSEB	5	16.639	5.38
22	C.R.	NGP	Waranor	220	Railway	2*20 MVA	MSEB	2	NA	2.9
23	C.R.	NGP	Hinganghat	220	Railway	2*20 MVA	MSEB	5	9.458	1.95
24	C.R.	NGP	Viveknandhnagar	220	Railway	2*20 MVA	MSEB	5	5.105	2.73
25	C.R.	NGP	Bulburi	220	Railway	2*20 MVA	MSEB	5	NA	3.81
26	C.R.	NGP	Kalmeshwar	220	Railway	2*20 MVA	MSEB	2	NA	2.53
27	C.R.	NGP	Katol	132	Railway	2*13.5/20 MVA	MSEB	2	NA	3.08
28	C.R.	NGP	Dhamangon	220	Railway	2*20 MVA	MSEB	15	11.445	2.86
29	C.R.	NGP	Badnera	220	Railway	1*20 MVA	MSEB	18	12.382	3.13
30	C.R.	Mumbai	Parvat *	220	Railway	2*21.6 MVA	MSEB	9	7.167	1.55
31	C.R.	Mumbai	Kharbo *	100	Railway	2*21.6 MVA	MSEB	9	6.892	1.39
32	C.R.	Mumbai	Sprpur	110	Railway	2*21.6MVA	TATA	---	---	---
33	C.R.	Mumbai	Kotol	110	Railway	2*21.6MVA	TATA	---	---	---
34	C.R.	Mumbai	Kasara	110	Railway	2*21.6MVA	TATA	---	---	---
35	C.R.	Mumbai	Thandakund	110	Railway	2*21.6MVA	TATA	---	---	---
36	C.R.	Mumbai	Tiwala	110	Railway	2*21.6MVA	TATA	---	---	---
								287	255.41	82.52

Region wise consumption details of Load Center
DETAILS OF DC TRACTION SUB STATIONS

Sheet - 16

SN	Railway	Division	Location TSSFP	Grid available TSSFP in kV	supply all Railway SEBs	Type-owned by No. of existing or transformer with capacity (MVA)	Power Supply Authority	Contracted Maximum Demand (MVA)	Average Recorded Maximum Demand during 2008-09 (MVA)	Average monthly energy consumption during 2008-09 in million units	in
1	C.R.	Mumbai	C.S.T Mumbai	22	Railway	2*3160 KVA	TATA	10	10.521	6.07	
2	C.R.	Mumbai	Wadkunder	22	Railway	2*3430 1*3280+80 KVA					
3	C.R.	Mumbai	Chinchpokali	22	Railway	2*3302 KVA					
4	C.R.	Mumbai	Dadar	22	Railway	1*3165+50 1*3407 KVA					
5	C.R.	Mumbai	Matunga	22	Railway	2*3165+50 KVA					
6	C.R.	Mumbai	Sion	22	Railway	3*3280+80 KVA	TATA	25	24.626	7.38	
7	C.R.	Mumbai	Kurla	22	Railway	2*3407 1*3360 + 1*3165+50 KVA					
8	C.R.	Mumbai	Vidhyavihar	22	Railway	1*3363 KVA					
9	C.R.	Mumbai	Raoli ah.	22	Railway	2*3160+80 KVA					
10	C.R.	Mumbai	Chembur	22	Railway	2*3160+80 KVA					
11	C.R.	Mumbai	Motichand	22	Railway	2*3250 KVA	TATA	25	8.825	2.31	
12	C.R.	Mumbai	TCB	22	Railway	1*3280+80 1*3160+80 KVA					
13	C.R.	Mumbai	Cotton green	22	Railway	2*3165+50 KVA	TATA	3	2.209	0.49	
14	C.R.	Mumbai	Ghatkopar	22	Railway	1*3302 + 1*3239 KVA					
15	C.R.	Mumbai	Vikhroli	22	Railway	1*3281 + 1*3250 KVA	TATA	7	9.499	2.69	
16	C.R.	Mumbai	Kanjurmang	22	Railway	2*3363.2 KVA					
17	C.R.	Mumbai	Bhandup	22	Railway	2*3231 KVA					
18	C.R.	Mumbai	Therwala	110	Railway	2*3280 KVA					
19	C.R.	Mumbai	Badliapur	110	Railway	2*3330 KVA	TATA	62	52.871	17.28	
20	C.R.	Mumbai	Vangani	110	Railway	2*3330 KVA					
21	C.R.	Mumbai	Chincholi	110	Railway	1*3330+150 1*3280+150 KVA					
22	C.R.	Mumbai	Kargat	110	Railway	2*3280+150 KVA					
23	C.R.	Mumbai	Lowerthorngat	110	Railway	2*3280+150 KVA					
24	C.R.	Mumbai	Thakurnesi	110	Railway	2*3280+150 KVA					
25	C.R.	Mumbai	Monkey Hill	110	Railway	2*3330+150 KVA					
26	C.R.	Mumbai	Upperthorngat	110	Railway	2*3280+150 KVA					
27	C.R.	Mumbai	Lonavata	110	Railway	1*3280+150 1*3330+150 KVA					
28	C.R.	Pune	Katla	110	Railway	1*3330+150 KVA					
29	C.R.	Pune	Kamohat	110	Railway	2*3330+150 KVA					
30	C.R.	Pune	Talagan	110	Railway	1*3330+150 KVA					
31	C.R.	Pune	Dehu Road	110	Railway	2*3330+150 KVA					
32	C.R.	Pune	Chinchwad	110	Railway	1*3330+150 KVA					
33	C.R.	Pune	Kirkee	110	Railway	2*3165+50 KVA					
34	C.R.	Mumbai	Mulund	22	Railway	2*3280+80 KVA					
35	C.R.	Mumbai	Thane	22	Railway	1*3407 3*3400KVA					
36	C.R.	Mumbai	Kalva	22	Railway	1*3302KVA	MSEB	11	9.51	3.29	

Sheet - 17										
Sl	Railway	Division	Location of TSSFP	Grid supply available at TSSFP in kV	Type-owned at Railway SEBs	No. of existing transformer with capacity (MVA)	Power Supply Authority	Contracted Maximum Demand (MVA)	Average Recorded Maximum Demand during 2008-09 (MVA)	Average monthly energy consumption during 2008-09 in million units
1	2	3	4	5	6	7	8	9	10	11
37	C.R.	Mumbai	Mumbra	22	Railway	1*320+80KVA				
38	C.R.	Mumbai	Parsik	22	Railway	2*363KVA				
39	C.R.	Mumbai	Diva	22	Railway	1*3165+60KVA				
40	C.R.	Mumbai	Dahival	22	Railway	1*330 KVA				
41	C.R.	Mumbai	Dumbivli	22	Railway	1*302 KVA				
42	C.R.	Mumbai	Thakurl	22	Railway	2*363.2 KVA	MSEB	10	6.405	1.49
43	C.R.	Mumbai	Kalyan	22	Railway	3*300 KVA				
44	C.R.	Mumbai	Ambemath	22	Railway	1*363.3 KVA	MSEB	2	2.04	0.61
45	C.R.	Pune	Ghopuri	22	Railway	1*350 KVA	MSEB	2	1.371	0.21
46	C.R.	Mumbai	Isapuri	110	Railway	2*320+150 KVA	MSEB	12	0.019	0.015
47	C.R.	Mumbai	Vashi	22	Railway	2*3150+80 KVA				
48	C.R.	Mumbai	Juhuagar	22	Railway	2*320+80 KVA				
49	C.R.	Mumbai	Seawood (Charane)	22	Railway	2*363 KVA	MSEB	5	2.701	0.81
50	C.R.	Mumbai	Belapur	22	Railway	2*3150+80 KVA				
51	C.R.	Mumbai	Rhandedwar	22	Railway	2*363+80 KVA				
52	C.R.	Mumbai	Parvel	22	Railway	1*3150 & 1*3340 KVA	MSEB	3	2.295	0.69
53	C.R.	Mumbai	Koperkhairan	22	Railway	1*3150+80 KVA				
54	C.R.	Mumbai	Airoli	22	Railway	1*3150+80 KVA				
55	C.R.	Mumbai	Parsik	22	Railway	2*363.2+200 KVA	MSEB	10	11.229	2.48
								198	154.171	66.795

Region wise consumption details of Load Center
DETAILS OF AC TRACTION SUB STATIONS

SN	Railway	Division	Location of TSS/FP	Grid supply available at TSS/FP in KV	Type-owned by Railway or SEBs	No. of existing transformer with capacity (MVA)	Power Supply Authority	Contracted Demand	Maximum Demand	Average Recorded Demand during 2008-09 (MVA)	Maximum consumption during 2008-09 (MVA)	Average monthly energy consumption during 2008-09 in million units
1	ER	HWH	Dhatrigram	132	Railway	1 x 12.5, 1 x 21.6	WBSEDCL	4		3.5		0.92
2			Karwa	132		1 x 12.5		3		2.72		0.41
3			Dankuni	132		2 x 21.6		11.5		10.94		2.42
4			Liluah	25	SEB	2 x 20	DVC	17		15.59		4.83
5			Belmuri	25		1 x 12.5, 25		16		14.21		4.01
6			Adinaptagram	25		2 x 20		15.5		15.16		4.19
7			Bardhaman	25		2 x 25		22		18.45		5.07
8		SDAH	Titagarh	25		2 x 20	WBSEB	20		19.9		6.85
9			Ashoknagar	25		2 x 7.5		3.5		3.07		0.83
10			Sonarpur	25		2 x 12.5		14		13.7		4.96
11			Ranaghat	25		10, 12.5		8		7.79		2.38
12			Lakshminagar	25		2 x 12.5		5		4.19		1.31
13			Barasat	132		1 x 21.6		9		8.31		2.49
14			DEBOGRAM	132		1 X 21.6		4		4.05		0.72
15		ASN	Durgapur	25	Railway	2 x 25	DVC	23		20.81		6.05
15			Kumardubi	25		2 x 25		20.5		19.83		5.09
17			Jamtara	132		2 x 21.6	JSEB	12		10.64		1.9
18			Sankarpur	132		20		14		11.05		2.35
			TOTAL					222		203.91		56.78

Region wise consumption details of Load Center
DETAILS OF AC TRACTION SUB STATIONS

Sheet - 5

SN	Railway	Division	Location of TSS/PP	Grid supply available at TSS/PP in kV	Type-owned by Railway or SEBs	No. of existing transformer capacity (MVA)	Power Supply Authority	Contracted Demand	Maximum Demand	Average Recorded Maximum Demand during 2008-09 (MVA)	Average monthly energy consumption during 2008-09 in million units
1	2	3	4	5	6	7	8	9		10	11
1	NR	DLI	Chanakypuri	66	Railway	12.5 x3	BSES Rajdhani Power Ltd.(BRPL)	15		12.96	1.67
2			Narela	66	-do-	21.6x2	North Delhi Power Limited (NDPL)	18		15.38	4.06
3			Diwana	132	-do-	21.6x2	Uttar Haryana Bijali Vitran Nigam Ltd.(UHBVNL)	30		24.6	9.25
4			Tarola	-do-	-do-	21.6x1					
5			Shahbad Markanda	-do-	-do-	21.6x2					
6			Ballabhgarh	66	-do-	21.6x2	Dakshin Haryana Bijali Vitran Nigam Ltd.(DHBVNL)	33		31.1	11.25
7		UMB	Rajpura	220	-do-	21.6x1	Punjab State Electricity Board	20		13.7	3.16
8			Ghaggar	220	-do-	21.6x1	Punjab State Electricity Board	8		5.14	0.94
9			Anandpur Sahib	132	-do-	21.6x1	Punjab State Electricity Board	5		4.14	0.388
10			Jagadhari	220	-do-	21.6x2	Uttar Haryana Bijali Vitran Nigam Ltd.(UHBVNL)	12.5		9.48	2.25
11			Kurali	132	-do-	21.6x1	Punjab State Electricity Board	8		5.28	0.984
12		FZR	Sanewal	220	-do-	21.6x2	Punjab State Electricity Board	13.5		8.59	2.08
13			Butari	220	-do-	21.6x2	Punjab State Electricity Board (PSEB)	12		5.92	1.281
14			Chireru	220	-do-	21.6x1	Punjab State Electricity Board	12		6.68	1.383
15		MB	Roorkee	220	-do-	21.6x1	Uttaranchal Power Corporation Ltd.(UPCL)	8		6.23	0.874
16		LKO	Amausi	132	-do-	21.6x1 12.5x1	Uttar Pradesh Power Corporation Ltd.(UPPCL)	14		9.03	2.3
TOTAL								209		158.23	42.07

Region wise consumption details of Load Center
DETAILS OF AC TRACTION SUB STATIONS

SN	Railway	Division	Location of TSS/FP	Grid supply available at TSS/FP in KV	Type-owned by Railway or SEBs	No. of existing transformer with capacity (MVA)	Power Supply Authority	Contracted Demand	Maximum Demand	Sheet - 6	
										Average Recorded Demand during 2008-09 (MVA)	monthly energy consumption during 2008-09 in million units
1	2	3	4	5	6	7	8	9	10	11	
1	SR	Chennai	Chindatripet	110KV	Railway	2 x 21.6	TNEB	10.50	7.03	18.050	
2			Tambaram	110KV	Railway	2 x 21.6	TNEB	18.00	18.13	58.240	
3			Acharapakkam	110KV	Railway	2 x 12.5	TNEB	6.50	6.19	13.820	
4			Villupuram	110KV	Railway	2 x 12.5	TNEB	6.00	4.26	6.850	
5			Ennore	110KV	Railway	2 x 21.6	TNEB	12.00	12.02	40.840	
6			Avadi	110KV	Railway	2 x 21.6	TNEB	21.00	20.33	78.060	
7			Arakkonam	110KV	Railway	2 x 21.6	TNEB	17.50	15.96	52.040	
8			Thiruvalem	110KV	Railway	2 x 21.6	TNEB	16.20	14.99	39.450	
9			Valathoor	110KV	Railway	2 x 21.6	TNEB	15.50	14.89	41.330	
10			Tirupattur	110KV	Railway	2 x 21.6	TNEB	17.40	16.83	41.420	
11			Sullurpeta	110KV	Railway	2 x 12.5	AP Transco	10.00	12.43	28.290	
12			Puttur	110KV	Railway	2 x 21.6	AP Transco	10.00	13.82	39.450	
13		SA	Samalpatti	110KV	Railway	2 x 21.6	TNEB	8.50	7.93	19.490	
14			Bommiidi	110KV	Railway	2 x 21.6	TNEB	13.00	12.32	28.270	
15			Mettur Dam	110KV	Railway	2 x 12.5	TNEB	6.20	5.66	6.090	
16			Salem	110KV	Railway	2 x 21.6	TNEB	7.50	7.58	19.010	
17			Sankari Drug	110KV	Railway	1x21.6,1X 12.5	TNEB	11.20	10.87	25.620	
18			Ingur	110KV	Railway	1x21.6	TNEB	9.30	9.26	18.740	
19			Sulur Road	110KV	Railway	2 x 21.6	TNEB	9.00	9.16	22.580	
20		PGT	Kanjikode	110KV	Railway	2 x 21.6	KSEB	10.00	11.23	18.030	
21			Shoranur	110KV	Railway	1x21.6,1X 12.5	KSEB	8.00	6.68	16.600	
22		TVC	Chalakudi	110KV	Railway	2 x 21.6	KSEB	8.50	7.09	16.090	
23			Ernakulam	110KV	Railway	2 x 21.6	KSEB	8.00	8.65	19.090	
24			Punapra	110KV	Railway	1 x 12.5	KSEB	5.00	3.89	6.720	
25			Chingavanam*	110KV	Railway	1 x 21.6	KSEB	6.00	1.13	1.750	
26			Kazhakuttam*	110KV	Railway	1 x 21.6	KSEB	6.50	6.23	10.42	
27			Perinad	110KV	Railway	1x12.5,1x 21.6	KSEB	7.50	7.81	18.580	
TOTAL								284.80	272.37	704.92	

Sheet - 7

SN	Railway	Division	Location of TSS/FP	Grid supply available at TSS/FP in KV	Type-owned by Railway or SEBs	No. of existing transformer capacity (MVA)	Power Supply Authority	Contracted Demand	Maximum Demand	Average Recorded Demand during 2008-09 (MVA)	Maximum Demand during 2008-09 (MVA)	Average monthly consumption during 2008-09 in million units	energy during 2008-09 in million units
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	SCR	Vijayawada	Krishna Canal	132	RAILWAY	1x 21.6, 1x21.6	APSPDCL/APSPDCL/APNP DCL/APCPDCL	15.50		15.2		5.33	
2			Tenali	132		2 x 12.5		11.50		9.06		3.32	
3			Rayachoti	132		2 x 12.5		11.50		9.5		3.63	
4			Ongole	132		1 x 21.6,1x13.5		15.50		16.12		5.18	
5			Kavali	132		1 x 21.6,1x13.5		14.50		14.48		4.68	
6			Puduppalu	132		2 x 12.5		12.00		10.57		3.65	
7			Gudur	132		1 x 12.5,1 x 21.6		10.00		10.80		2.81	
8			Varthur	132		1 x 12.5,1 x 21.6		14.50		14.69		3.77	
9			Tadepalligudem	132		2 x 21.6		13.50		12.34		3.15	
10			Rajahmundry	132		1 x 21.6 1 x 12.5		12.00		11.77		3.28	
11			Samaikot	132		2 x 21.6		14.00		13.16		3.67	
12			Tuni	132		1 x 21.6		13.50		12.76		3.17	
13			Anakapalli	132		2 x 21.6		13.00		11.85		2.78	
14		Guntakal	Venkatagiri	132		2 x 12.5		12.00		10.47		2.11	
15			Renigunta	132		2 x 21.6		11.00		15.12		2.48	
16			Razampeta	220		2 x 21.6		8.00		8.67		1.03	
17			Pikala	132		2x12.5		6.00		7.42		0.72	
18		Secunderabad	Kondapalli	132		2 x 13.5		12.50		12.97		3.31	
19			Bonakali	132		2 x 21.6		13.50		15.4		4.25	
20			Dornakal	132		1 x 12.5, 1 x 21.6		13.50		15.3		4.11	
21			Nekonda	132		2 x 13.5		12.50		11.45		2.88	
22			Karipet	132		2 x 21.6		14.00		14.98		3.91	
23			Jamkunta	132		2 x 13.5		12.00		10.68		2.38	
24			Ramagundam	132		2 x 13.5		15.50		15.93		3.93	
25			Bellampalli	132		2 x 21.6		10.00		10		2.57	
26			S.K. Nagar	132		2 x 13.5		16.00		15.07		3.12	
27			Ghanapur	132	RAILWAY	2 x 21.6	APTRANSCO	12.50		10.61		2.34	
28			Aler	132	RAILWAY	2 x 21.6		13.50		14.54		2.99	
29			Ghatkesar	132		2 x 21.6		16.00		16.12		3.16	
30			Sanathnagar	132		2 x 21.6		6.00		11.22		2.29	
31			Winnar	220		2 x 20		6.00		0		2.97	
			TOTAL				MSEB	381.5		378.25		98.97	

Region wise consumption details of Load Center
DETAILS OF AC TRACTION SUB STATIONS

Sheet - 8

SN	Railway	Division	Location of TSS/PP	Grid supply available at TSS/PP in KV	Type-owned by Railway or SEBs	No. of existing transformer with capacity (MVA)	Power Supply Authority	Contracted Demand	Maximum Demand	Average Recorded Maximum Demand during 2008-09 (MVA)	Average monthly energy consumption during 2008-09 in million units
1	2	3	4	5	6	7	8	9	10	11	
1	SER	CKP	Sidgajhari	132	RLY	2 x 13.5/20	JSEB	17		16	4.62
2			Manikui	25	SEB	2 x 12.5	JSEB	20		20.5	5.61
3			Rajkhaswan	25	SEB	1 x 10.0	JSEB	11.5		11.6	2
4			Chakradharpur	132	RLY	2 x 13.5/20	JSEB	10		21	4.8
5			Gulikra	25	SEB	2 x 10	JSEB	15.8		16	4.2
6			Kendposi	25	SEB	2 x 10	JSEB	14		15	4.66
7			Barajamda	132	RLY	2 x 12.5	NESCO	17.5		21.5	4.32
8			Bihulata	132	RLY	2 x 13.5/20	WESCO	10.5		9	1.79
9			Rourkela	25	SEB	1 x 12.5	WESCO	10.5		10	2.8
10			Chandiposh	220	RLY	2 x 21.6	WESCO	11.5		10	2.25
11			Buana	132	RLY	2 x 13.5/20	WESCO	12.6		11.5	3.76
12			Rajgangpur	132	RLY	2 x 10	WESCO	12.5		10	3.16
13			Jharuguda	132	RLY	2 x 13.5/20	WESCO	17		16.5	4.64
14			Navagam	132	RLY	1 x 21.6	WESCO	9.5		6.5	1.11
15		KGP	Howrah	25	SEB	2 x 21.6	WBSEB	19		18	5.4
16			Kolaghat	25	SEB	2 x 12.5	WBSEB	12.5		11	2.42
17			Haldia	25	SEB	2 x 10.0	WBSEB	7		7	1.15
18			Balichak	132	RLY	2 x 13.5/20	WBSEB	27		25	8
19			Hijli	25	SEB	2 x 10.0	WBSEB	12		13.5	3.3
20			Dalbhumgarh	25	SEB	1 x 10, 1 x 12.5	JSEB	13.5		14	3.75
21			Jaleswar	132	RLY	2 x 21.6	NESCO	12		10.5	2.05
22			Balasore	132	RLY	1 x 21.6	NESCO	12		12	2.3
23		ADA	Parulsa	25	SEB	2 x 12.5	WBSEB	12		14.5	2.61
24			Banapura	132	RLY	1 x 21.6	WBSEB	10		8	1.46
25			Chandrakona	132	RLY	1 x 21.6	WBSEB	9		7.5	1.25
26			Ramkanali	25	SEB	2 x 25	DVC	14		12.5	2.89
27			Paikherdi	25	SEB	2 x 12.5	DVC	13		12.5	2.47
28		RANCHI	Tantibihari	132	RLY	1 x 21.6	JSEB	18		15	3.25
29			Lodhuma	132	RLY	2 x 21.6	JSEB	8		6.5	1.06
30			Bakashpur	132	RLY	1 x 21.6	JSEB	20		16.5	2.2
31			Bano	132	RLY	1 x 21.6	JSEB				
TOTAL								408.9		399.1	95.28

Region wise consumption details of Load Center
DETAILS OF TRACTION SUB STATIONS

Sheet - 9

SN	Railway	Division	Location of TSS/FP	Grid supply available at TSS/FP in kV	Type-owned by Railway or SEBs	No. of existing transformer capacity (MVA)	Power Supply Authority	Contracted Demand	Maximum Demand	Average Recorded Demand during 2008-09 (MVA)	Maximum Demand during 2008-09 (MVA)	Average monthly energy consumption during 2008-09 in million units	
1	2	3	4	5	6	7	8	9	10	11			
	W.R.	BCT(AC)	Palghar	132	RLY	2*21.6	MSEDCL	15.00		15.10		4.82	
1			Gholvad	132	RLY	2*21.6	MSEDCL	10.00		11.58		3.60	
2			Nandurbar	132	RLY	21.6 , 12.5	MSEDCL	10.00		11.69		3.53	
3			Nardana	132	RLY	21.6	MSEDCL	6.00		7.33		2.05	
4			Dharangaon	132	RLY	12.5, 21.6	MSEDCL	6.00		7.02		1.98	
5			Vasai Rd (AC)	100	RLY	2*21.6	MSEDCL	9.00		7.09		1.69	
6			Atul	132	RLY	2*12.5	DGVCL	16.00		16.09		5.31	
7			Bhestan	132	RLY	12.5, 2*21.6	DGVCL	18.50		19.68		7.12	
8			Madhi	66	RLY	2*21.6	DGVCL	7.00		6.78		1.87	
9			Navapur	66	RLY	21.6	DGVCL	8.00		8.14		1.47	
10		BRC	Bharuch	132	RLY	2*21.6	DGVCL	17.00		17.76		5.92	
11			Makarpura	132	RLY	2*21.6	MGVCL	18.98		19.63		7.12	
12			Mehmadabad	132	RLY	12.5, 21.6	MGVCL	10.00		12.15		2.79	
13			Anand	132	RLY	2*12.5	MGVCL	9.50		9.71		2.80	
14			Samliya	132	RLY	21.5, 12.5	MGVCL	12.00		13.07		3.36	
15			Godhra	132	RLY	2*21.6	MGVCL	15.94		16.38		4.92	
16		RTM	ADI	Gandhinagar	132	RLY	2*12.5	UGVCL	5.00		4.46		1.01
17			Dahod	132	RLY	2*21.6	MGVCL	21.00		22.45		6.45	
18			Bamania	132	RLY	2*21.6	MPPKVCL	21.97		20.20		5.29	
19			Ratlam	132	RLY	2*12.5	MPPKVCL	13.97		12.47		3.27	
20			Nagda	132	RLY	2*21.6	MPPKVCL	16.97		16.83		4.61	
21			Naikheri	132	RLY	2*21.6	MPPKVCL	11.97		10.79		2.20	
22			Maksi	132	RLY	2*21.6	MPPKVCL	10.00		9.33		1.65	
23			Mohammedkhera	132	RLY	2*12.5	MPPKVCL	10.97		10.62		2.03	
24			Sehore	132	RLY	21.5, 12.5	MPPKVCL	9.97		8.78		1.80	
25		TOTAL							310.74		315.13		88.66

Region wise consumption details of Load Center
DETAILS OF AC TRACTION SUB STATIONS

Sheet - 10

SN	Railway	Division	Location of TSS/FP	Grid supply available at TSS/FP in kV	Type-owned by Railway or SEBs	No. of existing transformer with capacity (MVA)	Power Supply Authority	Contracted Demand	Maximum Demand	Average Recorded Demand during 2008-09 (MVA)	Maximum Demand during 2008-09 (MVA)	Average monthly energy consumption during 2008-09 in million units	
1	2	3	4	5	6	7	8	9	10	11			
1	ECR	DHN	Pradhankanta	132	RLY	2 x 13.5/20	DVC	16	15.38	3.96			
2			Nimiaghut FP	25	DVC	2 x 25		17	16.31	4.3			
3			Koderma FP	25	DVC	2 x 25		24.5	24.16	5.19			
4			Paharpur	132	RLY	2 x 13.5/20	BSEB	9	7.25	1.49			
5			Rajabera	132	RLY	2 x 12.5		15.5	17.47	3.91			
6			Barkakhana	132	RLY	2 x 21.6/30		13.5	14.29	2.07			
7			Ray	132	RLY	1 x 21.6		19.5	20.34	4.03			
8			HZD	132	RLY	1 X 13.5		12.5	12.49	2.81			
9			Barwadih*	132	RLY	1 x 21.6		JSEB	19.5	18.2	6.45		
10			Tolra(TRZ)	132	RLY	2 X 21.6							
11			RCGT	132	RLY	2 X 21.6							
12		MGS	Rafiganj	132	RLY	2 x 18.75	BSEB	13	14.35	5.96			
13			Kudra	132	RLY	2 x 21.6		6	6.48	2.95			
14			Jajpla	132	RLY	1 x 21.6		7.5	7.53	1.43			
15			Gaya	25	BSEB	1x 13.35		9	8.3	2.78			
16			Sonnagar	25	BSEB	2 x (12.5 & 13.35)		14	13.56	4.7			
17			Karamnasa	25	BSEB	2x (13.35 & 13.5/20)		7.5	6.62	1.75			
18		DNR	Zamania	132	RLY	1 x 21.6	UPPCL	13.5	11.92	1.79			
19			DURE	132	RLY	2 x 21.6	BSEB	9.5	10.18	2.03			
20			ARA	132	RLY	1 x 21.6		8.5	8.23	1.67			
21			Danapur	132	RLY	2 x 21.6		7.5	10.27	2.52			
22			Khusropur	132	RLY	1 x 21.6		7	8.46	1.52			
23			Luckeesarai	132	RLY	2 x 21.6		9.5	8.71	2.01			
24			JHD	132	RLY	1x21.6		2	3.69	1.14			
25			Mokama	132	RLY	1x21.6		5	8.02	1.22			
				TOTAL					266.5	272.21	67.68		

Region wise consumption details of Load Center
DETAILS OF AC TRACTION SUB STATIONS

Sheet - 11

SN	Railway	IS Code	Location of TSS/PP	Grid supply available at TSS/PP in KV	Type-owned by Railway or SEBs	No. of existing transformer with capacity (MVA)	Power Supply Authority	Contracted Demand	Maximum Demand	Average Recorded Demand during 2008-09 (MVA)	Maximum consumption during 2008-09 (MVA)	Average monthly energy consumption during 2008-09 in million units
1	2	3	4	5	6	7	8	9	10	11		
1	ECOR	Khurda Road	Bareva	132	RLY	1 x 21.6	APTRANSCO (APEPDCL)	11		13.5		2.65
2			Jaganmuthpur			2 x 21.6	(SOUTHCO)	14		12.4		2.9
3			Rambha			1' x 21.6	(SOUTHCO)	10		8.6		1.08
4			Solari			2 x 21.6	CESU	10		9.6		2.02
5			Kaipadar Road			1 x 21.6	CESU	13		13		3.84
6			Kendrapara Rd*			2 x 21.6	CESU	6		5.5		1.35
7			Meramandoli			2 x 21.6	CESU	8		6.8		1.01
8			Bhadrak			2 x 21.6	NESCO	11		10.2		2.22
9			Joranda Rd.			1x21.6	CESU	9		10		2.19
10			Jakhapura			1 x 21.6	NESCO	11		11.2		2.73
11		Wahur	SimbachalamNorth			1 x 21.6 + 1x13.5	APTRANSCO (APEPDCL)	5		15.5		4.64
12			S.Kota			1 x 21.6 + 1x13.5	(APEPDCL)	6.5		5.8		0.62
13			Tynda			2 x 12.5	(APEPDCL)	7.5		NA		1.28
14			Shimilguda			2 x 12.5	(APEPDCL)	11		NA		1.83
15			Gorapur			1 x 12.5	(APEPDCL)	9		NA		0.9
16			Virasnagar			2 x 21.6	(APEPDCL)	6		13.3		2.74
17			Ponduru			2 x 21.6	(APEPDCL)	6		13.3		2.74
18			Naspada			2 x 21.6	(APEPDCL)	6		12.4		2.55
19			Padua			1 x 12.5,1x13.5	SOUTHCO	4.5		3.5		0.58
20			Machhikunda Road			1 x 12.5	SOUTHCO	5.2		4.8		0.74
21			Manabar			2 x 12.5	SOUTHCO	12		10.1		1.37
22			Mulliguda			1 x 12.5,1x13.5	SOUTHCO	11		9.9		1.34
23			Jeypur			1 x 12.5	SOUTHCO	5		4.5		0.59
24			Charamulakusumi			1 x 10,1x 12.5	SOUTHCO	6		5.5		0.73
25			Amuguda			1 x 10,1x 12.5	CSEB	5		4.9		0.98
26			Dilmiti			2 x 12.5		6.5		6.5		1.07
27			Kumharsodra			1 x 12.5		6.3		6		0.85
28			Kawaragan			2 x 12.5		6.5		6		1.06
29			Gidam			2 x 12.5		7.7		7.3		1.11
30			Bhansi			2 x 12.5		7		6.9		1.56
			TOTAL					242.7		237		51.17

Region wise consumption details of Load Center
DETAILS OF AC TRACTION SUB STATIONS

Sheet - 12

SN		Divide	Location of TSS/FP	Grid supply available at TSS/FP in kV	Type-owned by Railway or SEBs	No. of existing transformer capacity (MVA)	Power Supply Authority	Contracted Demand	Maximum Demand	Average Recorded Demand during 2008-09 (MVA)	Maximum consumption during 2008-09 in million units	monthly energy consumption during 2008-09 in million units
1	2	3	4	5	6	7	8	9	10	11	12	13
1	NCR	ALD	Chunar	25	UPPCL	2 x 12.5	UPPCL	12	10.3	2.8		
2			Jigna	25		2x 12.5		14	9.9	2.8		
3			Naini	25		2 x 12.5		13	12.5	3.2		
4			Sirathu	25		1 x 20,1 x 12.5		13	11.15	2.98		
5			Malwan	25		1 x 20, 1 x 12.5		13	10.65	3.44		
6			Jeonathpur	132	Rly	2 x 20	UPPCL	14	14.7	4.8		
7			Mirzapur	132		2 x 20		13	13.6	2.9		
8			Bharpur	132		20X21.6		10	11.6	2.6		
9			Manauri	132		1 x 20, 1 x 12.5		10	9.5	2		
10			Rasulabad	132		2 x 20		13	14.97	3.19		
11			Sirauli	132		2x20		13	19.02	5		
12			Pankaj TSS	132	NTPC Supply from PHED & DER GSS	2x21.6	NTPC	100 MW	NA	62.67		
13			Rurab	132		2x20						
14			Phaphand TSS	132		20 & 12.5						
15			Phaphand GSS	220		2 X130						
16			Bhartuna	132		2 x 21.6,						
17			Etawah	132		1 x 12.5, 1 x 21.6						
18			Bhadan	132		1 x 21.6,1x20						
19			Shikharabad	132		20X12.5						
20			Mitawali	132		21.6 & 21.6						
21			Hathras	132		20X&12.5						
22			Meharawal	132		2 x 20						
23			Kherja	132		2X21.6						
24			Dankur	132		2 x 20						
25			DER GSS	220		2x130						
26			Sahibabad	132		2 x 20,1x21.6						
27		Agra	Bhandui	132Kv	RLY	1x12.5, 1 X 21.6	UPPCL	18	15.60	5.50		
28			Parhadi	132Kv		1 x 12.5						
29			Mathura	132		2x21.6		19.5	25.90	6.30		
30			Buyana	132		1 x 21.6	JVVNL/REB	6	5.77	0.71		
31			Hodal	66	Rly(N)	2x21.6	HVPNL					
32		JHS	Lalpur	132	RLY	2 x 12.5	DVVNL	12	11.2	3.06		
33			Heitampur	132		2X21.6	(MPSEB)MPMKVVCL	20	14.38	3.9		
34			Gwalior	132		2X21.6		24	18.08	5.06		
35			Datta	132		12.5&21.6		24	18.12	5.3		
36			Bansi	132		2X21.6		24	20.87	5.9		
			TOTAL					285.5	267.81	134.11		

Region wise consumption details of Load Center
DETAILS OF AC TRACTION SUB STATIONS

Sheet - 13

SN	Railway	Division	Location of TSS/FP	Grid supply available at TSS/FP in kV	Type-owned by Railway or SEBs	No. of existing transformer capacity (MVA)	Power Supply Authority	Contracted Demand	Maximum Demand	Average Recorded Demand during 2008-09 (MVA)	Maximum consumption during 2008-09 in million units	monthly energy consumption during 2008-09 in million units
1		3	4	5	6	7	8	9	10	11		
1	SECR	BSP	JSG	132	RLY	2x13.5/20	OSEB	18		Billing is done by CKP division, S E Rly.		
2		BSP	Raigarh	132	RLY	1x13.5/20, 1x21.6	CSEB	16		15.87		4.12
3		BSP	Kharsia	132	RLY	2 x 13.5/20	CSEB	9		8.13		1.98
4		BSP	Champa	132	RLY	1x13.5/20, 1x21.6	CSEB	18		16.3		4.76
5		BSP	Korba	132	RLY	1x13.5/20, 1x12.5	CSEB	12.5		11.5		3.41
6		BSP	Akaltara	132	RLY	2 x 13.5/20	CSEB	12		10.13		2.64
7		BSP	Bilaspur	132	RLY	2 x 13.5/20	CSEB	21.5		17.65		5.47
8		BSP	Belghana	132	RLY	2 x 21.6/30.24	CSEB	12.5		10.57		2.43
9		BSP	Pendra Road	220	RLY	2 x 20	CSEB	24		22.18		4.41
10		BSP	Udalkachur	132	RLY	3 x 21.6	CSEB	14.5		12.44		2.25
11		BSP	BSPR*	132	RLY	2x21.6	CSEB	7.5		6.13		0.53
12		Raipur	Bhatapara	132	RLY	2 x 13.5/20	CSEB	17.5		15.35		4.35
13		Raipur	Raipur(Urkara)	132	RLY	2 x 20/13.5	CSEB	17		14.59		4.26
14		Raipur	Bilhai	132	RLY	1 x 12.5, 1x 13.5/20	CSEB	15		12.59		4.04
15		Nagpur	Rajnandgaon	132	RLY	2 x 13.5/20	CSEB	12.5		11.88		3.05
16		Nagpur	Paniagob	132	RLY	2 x 13.5/20	CSEB	16		15.09		3.75
17		Nagpur	Kanhan	132	RLY	2 x 13.5/20	MSEB**	10		Single part tariff		
18		Nagpur	Bhimdra Road	220	RLY	2 x 20	MSEB**	8		do-		2.95
19		Nagpur	Amgaon	132	RLY	2 x13.5/20	MSEB**	8		do-		2.47
20		Nagpur	Kachumi	132	RLY	2 x 13.5/20	MSEB**	8		do-		3.31
21		BSP	Amuppur	220	RLY	2 x 54	MPSEB	22.5		19.97		5.04
22			Nowraibad	220	RLY	2 x 54		30.5		27.47		6.49
			TOTAL					330.5		247.84		74.83

Region wise consumption details of Load Center
DETAILS OF TRACTION SUB STATIONS

Sheet - 14

SN	Railway	Division	Location of TSS/FP	Grid supply available at TSS/FP in kV	Type-owned by Railway or SEBs	No. of existing transformer capacity (MVA)	Power Supply Authority	Contracted Demand	Maximum Demand	Average Recorded Demand during 2008-09 (MVA)	Maximum consumption during 2008-09 in million units	monthly energy consumption during 2008-09 in million units
1	2	3	4	5	6	7	8	9	10	11		
1	SWR	SBC	WHD/TSS/3.36/15 BPW/FP/305/11	220	RLY	2 x 20	BESCOM	7.0		7.3		1.92
2	SWR	SBC	BWT/TSS/287/6) KPN/SP/249/1	220	RLY	2 x 20	BESCOM	11		10.2		2.53
3	SR	MAS	TPT/TSS*	132	RLY	2x21.6	TNB	16.4				1.33

			TOTAL		5.78
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Region wise consumption details of Load Center
DETAILS OF AC TRACTION SUB STATIONS

Sheet - 15												
SN	Railway	Division	Location of TSS/FP	Grid supply available at TSS/FP in kV	Type-owned by Railway or SEBs	No. of existing transformer capacity (MVA)	Power Supply Authority	Contracted Demand	Maximum Demand	Average Recorded Demand during 2008-09 (MVA)	Maximum Average monthly energy consumption during 2008-09 in million units	
1	2	3	4	5	6	7	8	9	10	11		
1	WCR	Bhopal	Gulabganj	132KV	Rly.	2 x 13.5	MPSEB	20		18.4	4.39	
2							22		19	4.61		
3							21		20.48	3.77		
4							22.5		19.3	4.72		
5							17		16.8	3		
6												
7												
8												
6			Talvadiya	132KV			2 x 13.5	MPEB-East	12		10	1.73
7			Khirkiya	132KV			2 x 21.6		10		10	1.52
8			Bina	132KV			2 x 21.6	MPEB-East	35		31.64	8.19
9		Jabalpur	Bina	132KV			1 x 21.6		Common reading with Bina TSS Bhopal Division			
10			Makronia	220KV			2 x 54	MPEB-East	20		18.8	3.51
11			Karhiya Bhadoli	220KV			2 x 54	MPEB-East	26		26.3	4.43
12			Mazgaon Phatak	220KV			2 x 54	MPEB-East	23		20.93	4.25
13		Kota	Suwara	132KV			2 x 13.5	MPEB-East	15		14.08	2.89
14			Ramganj Mandi	132KV			2 x 13.5	RSEB/ JV/VNL	10		19.35	4.52
15			Gudia	132KV			2 x 13.5		10		17.56	3.87
16			Lakheri	132KV			2 x 13.5		8		13.91	2.99
17			Sawai Madhopur	132KV		2 x 13.5	8			16.5	3.57	
18			Gangapur city	132KV		2 x 13.5	8			12.29	3.24	
19			Hindan city	132KV		2 x 13.5	8			14.31	3.3	
20			Bharatpur	132KV		2 x 13.5	8			15.4	3.05	
			TOTAL					303.5		335.05	71.55	

Region wise consumption details of Load Center
DETAILS OF TRACTION SUB STATIONS

S.No	Railway	Div.	Location of TSS/FP	Grid Supply available at TSS/FP in KV	Type owned by Railway or SEB	Installed capacity (MVA)	Power Supply Authorities	Contract Demand (MVA)	Average Recorded Maximum Demand in MVA (2008-09)	Avg.monthly consumption during 2008-09 in Mu.		
1	2	3	4	5	6	7	8	9	10	11		
1	W.Rly.	BCT (DC)	CHURCH GATE	22	RLY	2X3=6 MW	TATA 22KV Receiving Station at Mahalaxmi.	14	58.29	23.96		
2			MARINE LINES		RLY	2X3=6 MW						
3			GRANT ROAD		RLY	3X3=9 MW						
4			MAHALA XMI		RLY	3X3=9 MW						
5			ELPHINS TONE RD	22	RLY	3X3=9 MW	TATA 22KV Receiving Station at Dharavi, Mahim.	22				
6			MAHIM		RLY	2X3=6 MW						
7			BANDRA		RLY	1X3=3 MW						
8			VILE PARLE		RLY	3X3=9 MW						
9			ANDHERI	33	RLY	2X3=6 MW	TATA 33KV Receiving Station at Versova, Andheri.	11				
10			JOGESHW		RLY	2X3=6 MW						
11			GOREGAON	22	RLY	2X3=6 MW	TATA 22KV Receiving Station at Borivali.	16.5				
12			MALAD		RLY	1X3=3 MW						
13			KANDIVALI		RLY	2X3=6 MW						
14			BORIVALI		RLY	2X3=6 MW						
15			DAHISAR		RLY	1X3=3 MW						
16			MIRA ROAD		RLY	1X3=3 MW						
17			BHAYANDER		RLY	1X2=2 MW						
18			NAIGAON		RLY	2X3=6 MW						
19			VASAI ROAD	22	RLY	1X3=3 MW	MSEB 22KV Rec. Station at Vasai.	5			5.20	1.21
20			NALLASO PARA		RLY	1X4=4 MW						
21					VIRAR	22	RLY	2X3=6 MW			MSEB 22KV Receiving Station at Narangi, Virar	1
			TOTAL			45 Sets / 135 MW		69.5	64.97	25.56		