

# NTPC Limited

(A Government of India Enterprise)



Invites

Expression of Interest

(EOI)

For Setting Up

A Pilot Project for Thermal Energy Storage System (TESS) Coupled with Steam Water Cycle of One of the Existing Coal Power Plant of NTPC to Augment its Flexible Operation to Balance Intermittency of Renewable Energy Sources.

## DOCUMENTS OF EOI

This EOI document comprises of the following sections:

- (i) Section I : EOI Information
- (ii) Section II : Introduction
- (iii) Section III : Instructions to the Applicants
- (iv) Section IV : Consideration of Response
- (v) Section V : Application Form and Annexures

# **Section – I**

## **EOI Information**

**DETAILED NOTICE INVITING EXPRESSION OF INTEREST (EOI)****EOI No. NTPC/PE/ET&PR/2220907****Date: 07.09.2022**

NTPC is Inviting Expression of Interest from company for setting up a pilot project for Thermal Energy Storage System (TESS) coupled with steam water cycle of one of the existing coal power plants of NTPC to augment its flexible operation to balance intermittency of renewable energy sources.

**DOWNLOAD AND TIMELINES FOR SUBMISSION OF EOI**

- a. Interested APPLICANTs may download the documents of EOI free of cost from <https://ntpctender.ntpc.co.in>
- b. **Last date for submission of EOI** : **15.10.2022**
- c. **Last date for queries/ seeking clarifications** : **08.10.2022**
- d. **Response Validity** : **6 months from the last date for EOI Submission**

**1.0** For consideration of EOI, APPLICANTs are required to e-mail signed and scanned copy of EOI duly filled and completed in all respect, through e-mail mentioned hereunder. Email: [ashwinikumarverma@ntpc.co.in](mailto:ashwinikumarverma@ntpc.co.in) / [dipankarhalder@ntpc.co.in](mailto:dipankarhalder@ntpc.co.in)

**2.0** NTPC shall not be liable for any postal/ Mail delivery issue delays whatsoever in receipt of EOI documents and EOI received after the stipulated date and time shall not be entertained. EOIs submitted without supporting document will summarily rejected.

**3.0** NTPC reserves the right to reject or accept any or all applications, cancel/withdraw the EOI process without assigning any reason whatsoever and in such case, APPLICANT shall not have any claim arising out of such action. NTPC bears no responsibility or liability of any kind in reference to the EOI.

# Section - II

## Introduction

## INTRODUCTION

### **1.0 ABOUT NTPC**

NTPC Limited ([www.ntpc.co.in](http://www.ntpc.co.in)) is a leading power generation company of India. It has been ranked No#2 Independent Power Producer (IPP) worldwide as per Platts (2019). The Company is listed on the Indian stock exchange with a market capitalization of INR 833.12 billion.

NTPC Limited produces around 361 billion units of electricity annually through its cluster of gas, coal, hydro and RE based power stations of more than 69 GW capacity spanning across the country. Further, NTPC plans a target capacity of 130 GW by 2032.

NTPC Limited has total income INR 1200 billion (16 billion USD). NTPC group achieved a net profit of INR 161.11 billion (2.15 billion USD) in the financial year 2021-22 and has been consistently paying dividends to its shareholders for the last 28 years.

### **2.0 INTENT OF THE EXPRESSION OF INTEREST (EOI)**

**2.1** Flexibilization of thermal power plant is needed to manage grid integration challenge with rising share of variable solar and wind power generations. Further, Ministry of Power, Govt. of India, recently issued "Guidelines for Tariff Based Competitive Bidding Process for Procurement of Power from Grid Connected RE Power Projects for utilization under scheme for flexibility in Generation and Scheduling of Thermal/Hydro Power Stations through bundling with Renewable Energy and Storage Power". This will require more flexibilization in thermal power station. However, in flexible operation, thermal power plants will face more frequent start-ups and shut-downs, load variation from high load to load far below design limit and faster ramping rates to balance the grid. This aggressive operation will originate larger and more periodic thermal and mechanical stresses in the equipment of thermal power plants, which may lead to irreversible damages if the maximum stress limits of the material are exceeded. Creep and fatigue are the main damage mechanism that grow cracks in highly loaded condition even if proper control strategies are followed, which ultimately leading to lack of reliability of the equipment and plant. Moreover, at low load, compliance of emission norms will be challenging considering inferior coal quality in Indian context.

Thermal energy storage system (TESS) integrated with thermal power plant will help to avoid operation of boiler below Technical Minimum load, frequent start stops and frequent wide variation of load in the flexibilization of thermal plant operation and will ensure safe,

sustainable and efficient operation of existing thermal power plant.

- 2.2** In view of above, NTPC intends to set up a pilot project for thermal energy storage system (2-3MWH with discharge of 3-4 hours) integrated with one of its existing coal power plants so that at low demand, the power plant's output can be curtailed by redirecting steam to heat storage media of thermal storage system. Further, when the power demand rises, the power plant's output could be readjusted by supplying additional heat from TESS in the form of steam. Therefore, with this philosophy, thermal powerplant can continuously operate above economic load and at the same time can meet the requirement of grid stabilization.
- 2.3** The initiative intends to incorporate demonstrating the capability of TESS, analyzing the techno-commercial feasibility, validating performance, and subsequently developing product/solutions which can be a pathway for Thermal Energy Storage System (TESS) for flexible operation of the coal based thermal power plants.
- 2.4** The interested applicants will specify the technical specification, guarantee parameters, the total estimated project cost and shall propose the financial contribution to be shared by themselves and by NTPC.
- 2.5** Based on techno-commercial analysis of the responses in the EOI and further discussions with interested parties, if it is found commercially feasible, NTPC may go for pilot installation at any of the existing NTPC Coal based thermal plants/ may not proceed with any project at this stage.
- 2.6** NTPC reserves the right to implement the project either on nomination basis or through Request for Proposal (RFP) process amongst the shortlisted parties identified through this EOI Process.
- 2.7** The intellectual property right (IPR) generated from the pilot project will be co-owned by NTPC and the applicant. NTPC shall not monetize the IPR (if any) developed through this pilot.
- 2.8** The response(s) received in the EOI/ information received post feasibility study will be utilized by NTPC for:

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- a. Identification for suitable technologies which fits the intended use cases  
AND/OR
- b. Formulation of specifications for various systems/stages required for execution of demonstration/commercial project(s)  
AND/OR
- c. Shortlisting of parties for forthcoming Request for Proposals (RFP) / limited tenders by NTPC for undertaking demonstration/commercial project(s)

The Applicants may express their interest in respect of their offerings along with other inputs as indicated in relevant Annexures/formats.

**3.0 Indicative Role and Responsibilities of Parties for Pilot Project**

Indicative roles and responsibilities of the parties for pilot project shall include but not limited to the following:

**3.1 NTPC's Role:**

- Land for installation and commissioning of the system within NTPC plant premises and provide necessary support during operation and maintenance (O&M) of the pilot project.
- NTPC shall facilitate support required from OEM of boiler/turbine.
- NTPC shall provide power supply feeder from the nearest available switchgear. However complete electrical system from terminal point (power supply feeder at switchgear) onward shall be in the scope of vendor.
- NTPC shall provide Instrument air (if require), Service Air (If require), service water/ cooling water (if require) and other utilities, from nearest available terminal points. However, piping and system from terminal points onward shall be in the scope of vendor.
- Facilitate the applicant in applying for statutory clearances for the project.
- Facilitate the installation and commissioning of the system.
- Support in Data collection and analyzing the performance of the system during testing and subsequent operation.

**3.2 Applicant's Role**

- Design, engineering, manufacture, supply, erection, commissioning, and testing of Thermal Energy Storage System (TESS) incorporation into existing coal based generating unit, along with all associated electrical, civil/ structural, control and instrumentation and other accessories required for completion of the pilot project.
- Integration of TESS to existing steam/feed water system.



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- Routine maintenance of the systems for a period of 3 years from the date of commissioning
- Data collection and analyzing the performance of the system during testing and subsequent operation
- Getting required statutory clearances for installation and operation of the system
- Sharing the stack and system level information for comprehensive understanding of the system

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## **Section - III**

# **Instructions to the Applicants**

**INSTRUCTIONS TO THE APPLICANTS****1.0 The Applicants should note that:**

- a. Language of the responses to EOI or any query/clarifications/correspondences shall be in English only.
- b. For expression of interest, Application Form and Annexures given in Section-V shall be duly filled and sent to NTPC by the APPLICANT in soft copy.
- c. Applicants should go through Section-I and Section-II thoroughly before filling and submitting the application form and annexures in Section-V.
- d. Applicants shall mention the name and contact details of two persons, with complete address, phone number and email id.
- e. NTPC Ltd. may, at its sole discretion, ask for additional information/ documents and/ or seek clarifications from the Applicant(s) after the Deadline for submission of response, inter alia, for the purpose of removal of inconsistencies or infirmities in their responses.

**2.0 Enquiries and clarifications**

Any clarifications on the EOI may be sought to the following via e-mail:

To: [ashwinikumarverma@ntpc.co.in](mailto:ashwinikumarverma@ntpc.co.in)

CC to: [dipankarhalder@ntpc.co.in](mailto:dipankarhalder@ntpc.co.in)

**3.0 Corrigendum**

At any time before the last date of submission of EOIs, NTPC may, for any reason, whether at its own initiative or in response to a clarification requested by an Applicant, modify the EOI document. The amendment will be posted on the website and will be binding on the Applicants and the Applicant will give due consideration to the same, while they submit their EOIs, and would invariably enclose documents/ information, as required,

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on account of the amendment, as a part of the EOI. NTPC may, at its discretion, extend the deadline for the submission of EOIs.

**4.0 Preparation of the response to EOI**

The application of EOI shall consist of Annexure-1, 2, 3 and 4 of Section-V.

**5.0 Validity of the responses**

The Applicant shall submit the responses which shall remain valid up to six (6) months after the response Deadline ("Response Validity"). NTPC reserve the right to reject any response, which does not meet the above-mentioned validity requirement.

NTPC may solicit the Applicant's consent for an extension of the period of validity of the response. The request and the response in this regard shall be in writing. In the event any Applicant refuses to extend its response validity as requested by NTPC, NTPC shall terminate processing of such Applicant's responses. An Applicant accepting NTPC request for validity extension shall not be permitted to modify its response.

**6.0 Submission of the response to EOI**

The responses to the EOI are to be submitted in soft copy via below e-mail format-

To: [ashwinikumarverma@ntpc.co.in](mailto:ashwinikumarverma@ntpc.co.in)

CC to: [dipankarhalder@ntpc.co.in](mailto:dipankarhalder@ntpc.co.in)

**Ref. EOI No.**

**Dated**

**Submitted to:**

*Name, designation & address of the concerned officer of NTPC*

**Submitted by:**

*Name, address & contact no. of the Applicant*

All the pages of the response should be duly stamped and signed by the authorized signatory. The responses to the EOI should be submitted within the deadline at the e-mail address provided in the Section-I of this EOI.

## 7.0 Costs and expenses towards response to EOI

The Applicants shall be responsible for all the costs associated with the preparation of the response and participation in discussions and finalization & execution of the documents related with this EOI, NTPC shall not be responsible in any way for such costs, regardless of the conduct or outcome of this short-listing/ selection process.

## 8.0 Confidentiality

The Applicants undertake to hold in confidence this EOI and any document related or pursuant to this EOI and not to disclose the terms and conditions of the transaction contemplated hereby to third parties, except:

- (a) To their professional advisors.
- (b) To their officers, contractors, employees, agents or representatives, financiers, who need to have access to such information for the proper performance of their activities.
- (c) Disclosures required under applicable Law, without the prior written consent of the other parties of the concerned agreements.

Provided that the Applicant(s) agrees and acknowledges that NTPC may at any time, disclose the terms and conditions of this EOI and any document related or pursuant to this EOI to any person, to the extent stipulated under the applicable Law.

## 10. Disclaimer

This Expression of Interest (EOI) has been prepared by NTPC Ltd. For for response from Indian/Global Company/their Consortium/Affiliates/Representatives for setting up a Pilot Project for Thermal Energy Storage System (TESS) Coupled with Steam Water Cycle of One of the Existing Coal Power Plant of NTPC to Augment its Flexible Operation to Balance Intermittency of Renewable Energy Sources.

In submitting the response to the EOI, the Applicant certify that it understands, accepts, and agrees to the disclaimers on this page. Nothing contained in any other provision of the EOI nor any statements made orally or in writing by any person or party shall have the effect of negating or superseding any of the disclaimers set forth herewith.

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## **Section-IV**

### **Consideration of Response**

**CONSIDERATION OF RESPONSE****Responsiveness check**

The responses submitted by Applicants shall be scrutinized and may be rejected in following conditions-to establish interest in setting up Pilot Project for Thermal Energy Storage (TES) System, enabling flexible operation of Thermal Plants to balance. Responses shall be deemed non-responsive for following reasons:

- Responses that are incomplete, i.e., not accompanied by any of the applicable formats inter-alia covering letter power of attorney, applicable undertakings, provided in more details at annexure in Section-V.
- Responses not signed by authorized signatory and / or stamped in the manner indicated in this EOI.
- Material inconsistencies in the information/ documents submitted by the Applicant
- An Applicant submitting more than one response to this EOI either itself or through an affiliate or subsidiary company.
- Response validity being less than that required as per Clause 5 of section-III of this EOI.
- Response being conditional in nature.
- Response not received by the response Deadline.
- Response having Conflict of Interest.
- Applicant delaying in submission of additional information or clarifications sought by NTPC, as applicable.

All bids that shall meet the responsive check requirements set out above in this section of the EOI document shall be considered as responsive. In case of non-submission of relevant details as above, the responses may be considered as “**non-responsive**”, at the sole discretion of NTPC and will not be considered further.

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## **Section-V**

# **Application Form & Annexures**



**Annexure-1****FORMAT FOR COVERING LETTER CUM UNDERTAKING**

(The covering letter should be on the Letter Head of the Applicant)

Date : \_\_\_\_\_ Place : \_\_\_\_\_

To,

.....

**Sub.: (INVITATION FOR EXPRESSION OF INTEREST)**

**Ref.: EOI No. \_\_\_\_\_, dated \_\_\_\_\_ (the "EOI")**

Dear Sir,

We, the undersigned ..... [insert name of the "Applicant"] having read, examined, and understood in detail the **(INVITATION FOR EXPRESSION OF INTEREST)**.

We confirm that neither we nor any of our Parent Company/ Affiliate/ Ultimate Parent Company has submitted response other than this response directly or indirectly in response to the aforesaid EOI.

1. We give our unconditional acceptance to the EOI, issued by NTPC, as amended. In token of our acceptance to the EOI, the same have been signed & stamped by us and enclosed to the response. We hereby confirm that the provisions of the EOI shall be binding on us.
2. We have submitted our response strictly as per provisions and formats of the EOI, without any deviations, conditions and without mentioning any assumptions or notes.
3. We hereby unconditionally and irrevocably agree and accept that the decision made by NTPC in respect of any matter regarding or arising out of the EOI shall be binding on us. We hereby expressly waive any and all claims in respect of EOI process. We confirm that there are no litigations or disputes against us, which materially affect our ability to participate or function under the obligations with regard to EOI.

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4. Details of the contact person are furnished as below:

Name:

Designation:

Address:

Contact numbers:

email id:

5. We are enclosing herewith the entire response containing duly signed formats in electronic format sent via email to: [ashwinikumarverma@ntpc.co.in](mailto:ashwinikumarverma@ntpc.co.in) as per the EOI for consideration.

6. It is confirmed that our response is consistent with all the requirements of submission as stated in the EOI and subsequent communications from NTPC, if any.

7. The information submitted in our response is complete, strictly as per the requirements stipulated in the EOI and is correct to the best of our knowledge and understanding. We would be solely responsible for any errors or omissions in our response.

We confirm that all the terms and conditions of our response are valid for acceptance for a period of six (6) months from the response Deadline.

8. We confirm that we have not taken any deviation so as to be deemed "**Non-Responsive**" as stipulated in Section-IV of this EOI.

9. We understand that you are not bound to accept any response you receive.

We remain,

Yours sincerely

(Name, Designation and Signature of Authorized Person)

**Annexure-2****APPLICANT'S ORGANIZATION DETAILS TO BE SUBMITTED BY APPLICANT**

**(Note: Documents in support of meeting the respective requirement shall be submitted by the Applicant.)**

- 1) Name of the Company
- 2) Legal status of the Company
- 3) Brief description of the Company including details of its business groups/subsidiaries/affiliates:
- 4) Existing Manufacturing facilities – Locations, Capacity
- 5) Date of Incorporation:
- 6) Date of Commencement of Business:
- 7) Full address including Telephone nos. / Fax nos.:
  - a. Registered Office:
  - b. Head Office:
  - c. Address for communication:
  - d. Contact Details:
  - e. Office Address in India, if any:
- 8) Collaborations/tie-ups with manufacturer (if applicable),
- 9) Details of Indian parties, if any, for installation, supply, services, and collaboration

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**Annexure-3****TECHNICAL INFORMATION TO BE SUBMITTED BY APPLICANT**

Applicant shall duly furnish following information.

**1.0 About Technology**

- Detailed Write up of thermal energy storage system indicating basic working principle of TES, major operating condition/ parameter, type (Sensible heat, latent heat and thermo-chemical), storage material and its property, heating capacity, design temperature and pressure, technology readiness level, input requirements (Power consumption, water quality and quantity, if any, service air/ instrument air requirement) etc.
- P&ID and GA of Thermal Energy Storage System
- P&ID of integrated system of Thermal Energy Storage with
- Merits and demerits of offered technology
- Reference list of plants presently running on proposed technology
- Module Size, module efficiency
- System life in Hrs. of operation
- Basic Process diagram
- Brief about the auxiliary system
- Parameters of thermal energy storage, maximum achievable parameters and limiting factors
- Charge and Discharge Rate Control mechanism
- Technical details of material used for thermal energy storage and criteria for material selection
- Round trip efficiency and factors and parameters affecting round trip efficiency
- Details of land footprint, energy density (kWh/M<sup>3</sup>), Capex, Opex, design life, scalability, modularity aspects, depth of discharge,
- Its comparison with other kinds of energy storage technologies on above parameters

**2.0 About Proposed Pilot Project**

- Basis of Site and Size Selection, facilities required at site
- Selection of optimal integration points in steam water cycle
- Heat and Mass Energy Balance of the system
- Basic scheme and line diagram of complete system and auxiliaries
- Calculation of round-trip efficiency

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- Details of land footprint, TESS dimensions, energy density (kWh/M3), design life
- Operation philosophy
- Components details and technical specification of components
- Details of control and instrumentation
- Details of civil infrastructure required
- Details of electrical system
- Project Layout
- Codes and standard details
- Safety Aspects
- O&M Aspects
- Spare and consumables
- Scope of Work
- Terminal points, Inclusion and Exclusions
- Execution Period from award of job till Commissioning and Guarantee Test Run
- Power & water required.
- Cooling Water requirement
- Plot size required for the project
- Utilities required for normal operation of the plant
- Effluent generation, if any.
- Guarantee / Warranty offered for the offered project
- Technical data sheet
- Previous experience, in implementing proposed Thermal Energy Storage System.
- Engineering strength of Applicant
- Any other technical detail which Applicant would like to highlight, about its technology for consideration of EOI.
- Technical data as per Annexure-4
- Environmental clearance required if any
- Input data required from NTPC. Information related to system integration / hook up with Coal fired Thermal plant w.r.t Mechanical, electrical, C&I etc. aspects.

**3.0 Budgetary Cost:**

**3.1** Estimated total capital investment for the pilot project with cost breakup of all major components preferably as listed below:

- Thermal Energy Storage System and associated equipment

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- Civil/Infrastructure requirement
- Control System
- Integrating with existing coal based thermal generating unit.
- Installation and Commissioning
- Miscellaneous Items
- Package BOP (Transformer / Inverters/ control systems etc. as required for completion of the pilot project)
- Safety and protection systems

**3.2 Estimated Operation & Maintenance cost for 3 years with spares and consumables.**

Note:

- Applicant shall separately mention taxes, duties, freight, insurance applicable for above items/project.
- Applicant shall mention budgetary cost equipment supply for Indian item and imported item separately.
- Financial contribution by the party/ proposed mode of project execution

**4.0 Project Timeline:**

Applicant shall mention project completion period from award of job till Commissioning and Guarantee Test Run with necessary details.

**5.0 Financial Turnover:**

Applicant is requested to submit Annual financial turnover during the last three (3) preceding financial year. Applicant to submit audited Balance Sheet and Profit & Loss account for the above three financial years.

**6.0 Declaration:**

Applicant is requested to provide declaration stating that their firm is neither put on Holiday or Black-listed by any Government / PSU / Private firm or Financial Institution. Applicant is requested to provide Self Declaration on Applicant's Letter Head.

**7.0 Validity:**

Applicant is requested to mention validity of the proposal submitted.

(Sign & Company Seal)

Authorized signatory

**Annexure-4****(Technical Data)**

<b>Sl.No.</b>	<b>Description</b>	<b>Applicant to fill</b>
<b>1.</b>	<b>Type of Thermal Energy Storage technology proposed by Applicant</b>	
<b>2.</b>	<b>Whether Technology is owned by Applicant</b>	Yes/No
a)	If no, Name of Technology owner/ developer/ IP Owner	
b)	Registered office of Technology owner/ developer/ IP Owner	
c)	Whether Applicant has technology tie up/ collaboration with Technology owner/ developer/ IP Owner	Yes/No (Attached copy of Technology tie up/ collaboration agreement)
d)	Validity period of agreement	
<b>3.</b>	<b>Details of reference pilot/commercial Installations</b>	
a)	Name of project where Applicant/ Its Collaborator/ associate installed / is installing TESS	
b)	Name and address of owner of plant	
c)	Scale of plant	(Commercial/ pilot plant)
d)	Design capacity (Power rating and discharge period at rated power)	
e)	Type of application	Heat to heat/ Electricity to heat / Electricity to electricity
f)	Date of award to applicant	
g)	Date of completion of plant	
h)	If installation not yet completed, Present status and date of expected completion	
i)	Scope of work of Applicant (Furnish copy of LOA)	
j)	Technical parameters (Storage media, maximum temperature of storage media, pressure and temperature and flow of working fluid)	
<b>Details of Proposed Thermal Energy Storage System</b>		
1.	Type of Thermal Energy Storage Technology	Sensible heat/ Latent Heat/ Chemical
2.	Rated power and discharge period	
3.	Type of storage media	
4.	Name of Manufacturer/source of material	
5.	Melting Point of material	
6.	Density of material	
7.	Latent Heat (KJ/Kg)	

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8.	Storable thermal energy (latent heat) MJ/m <sup>3</sup>	
9.	Specific Heat (KJ/KgK)	
10.	Storable thermal energy (sensible heat) MJ/m <sup>3</sup> K	
11.	Heat Conductivity (W/mK)	
12.	Energy Storage Method	
13.	Duration of heat storage	
14.	Operating temperature of storage material	
15.	<b>Steam to storage material heat exchanger details</b>	
a)	Pressure, temperature, and flow of heating steam required	
b)	Outlet parameter of condensation	
c)	Type of Heat exchanger	
d)	Design capacity of Heat exchanger	
e)	Design pressure and temperature	
f)	Efficiency	
16.	<b>Storage media to Water/steam heat exchanger</b>	
a)	Inlet water/steam parameter required	
b)	Outlet parameter of steam	
c)	Type of Heat exchanger	
d)	Design capacity of Heat exchanger	
e)	Design pressure and temperature	
f)	Efficiency	
17.	<b>Effluent Generation data with Quality:</b> <ul style="list-style-type: none"> <li>- Solid (if any)</li> <li>- Liquid (if any)</li> <li>- Gaseous (if any)</li> </ul> In case of any effluent, include details of treatment required	
18.	Round Trip Efficiency	
19.	Expected life of entire project as a whole (Years)	
20.	Annual maintenance requirement Maintenance Activities with frequency.	
21.	No. of shutdown days per year	
22.	Capacity (MW-hrs)	
<b>Utility Requirement</b>		
23.	Total Power consumption and Installed load of Plant	
24.	Water (if required)	Clarified/ DM/ Service water
25.	Flow (m <sup>3</sup> /hr)	
26.	Pressure (kg/cm <sup>2</sup> )	

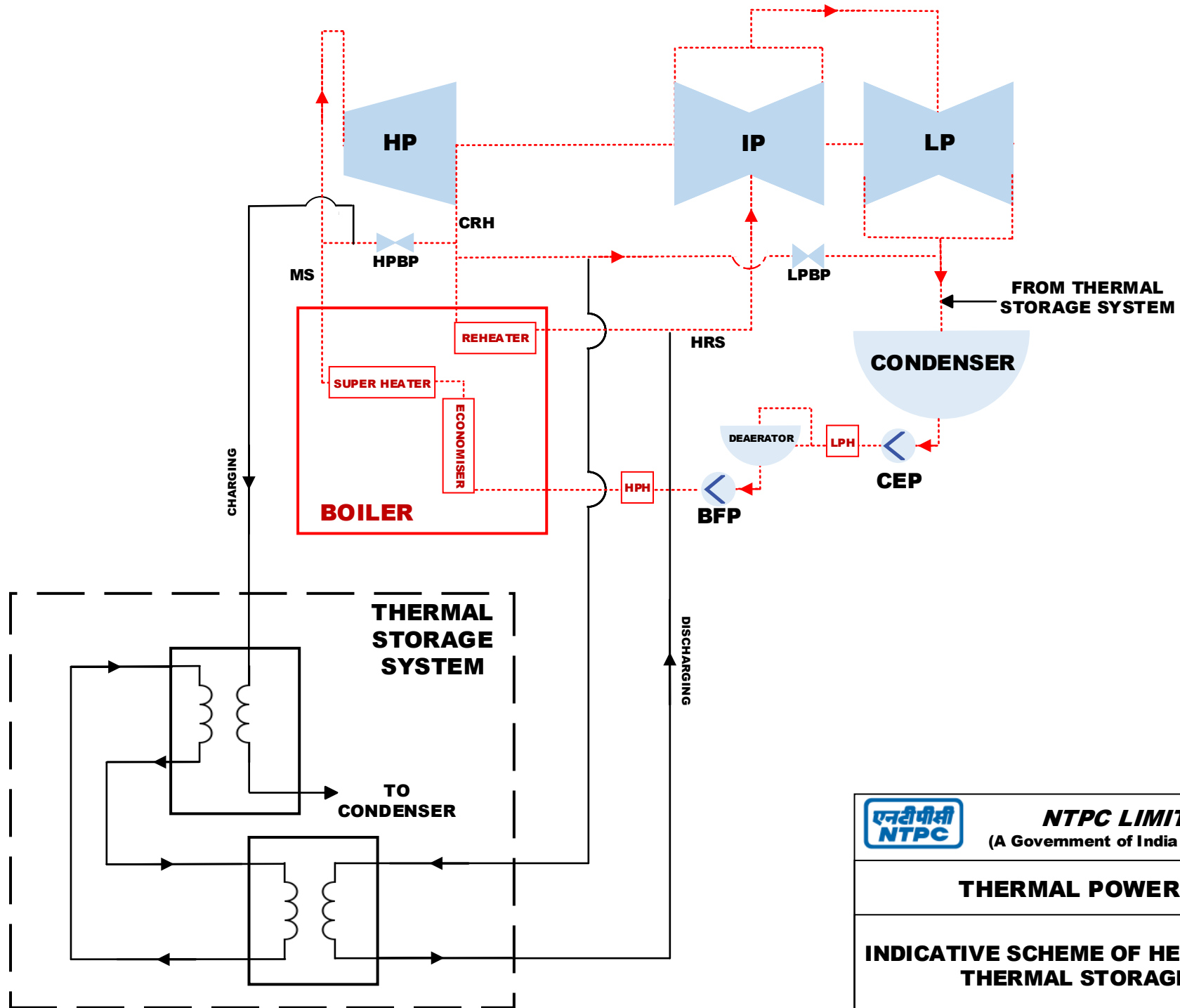



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27.	Instrument Air (Nm <sup>3</sup> /hr)	
28.	Service Air (Nm <sup>3</sup> /hr)	
29.	Others, if any. Please specify	
30.	Land Area Required (m2)	
<b>Other Data</b>		
31.	% of Indian content of equipment supply	
32.	% of Imported content of equipment supply and source of country	
33.	Completion schedule of project (in month)	
34.	Financial contribution to be shared by Applicant (% of total Project cost)	
35.	In case Applicant has technology tie up/ collaboration with technology owner/ developer/IP Owner, detail scope of technology support from collaborator to be indicated	

<b>Financial data of Applicant</b>				
		<b>Financial year 2021-22</b>	<b>Financial year 2020-21</b>	<b>Financial year 2019-20</b>
<b>1</b>	<b>Turnover</b>			
<b>2.</b>	<b>Net worth</b>			
<b>3.</b>	<b>Profit</b>			

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	<b>NTPC LIMITED</b> (A Government of India Enterprise)
<b>THERMAL POWER PROJECT</b>	
<b>INDICATIVE SCHEME OF HEAT TO HEAT TYPE THERMAL STORAGE SYSTEM</b>	