NTPC Limited

(A Government of India Enterprise)
Shared Service Centre (DBF & Hydro)

Invites

Expression of Interest (EOI)

From any Class-I/Class-II Local Suppliers for Development & Supply of Spares and Components for Gas Turbines installed at Dadri and Faridabad Gas Power stations

1.0 Definitions:

a) 'Local content' means the amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the goods, services or works procured (excluding net domestic indirect taxes) minus the value of imported content in the goods, services or works (including all customs duties) as a proportion of the total value, in percent.

Further, bidders can't claim themselves as Class-I local supplies/Class-II local suppliers by claiming the services such as transportation, insurance, installation, commissioning, training and after sales service support like AMC/CMC etc as local value addition.

- b) **'Class-I local supplier'** means a supplier or service provider, whose goods, services or works offered for procurement, meets the minimum local content as prescribed.
 - **'Class-II local supplier'** means a supplier or service provider, whose goods, services or works offered for procurement, meets the minimum local content as prescribed for 'Class-II local supplier' but less than that prescribed for 'Class-I local supplier'.
 - **'Non-Local supplier'** means a supplier or service provider, whose goods, services or works offered for procurement, has local content less than that prescribed for 'Class-II local supplier'.
- c) The local content requirement to categorize a Bidder/Supplier as 'Class-I local supplier' is minimum 50%. For 'Class-II local supplier', the 'local content' requirement is minimum 20%.
 - In case Ministry of Power (MoP) prescribes a higher percentage of minimum local content requirement to categorize a supplier as 'Class-I local supplier'/ 'Class-II local supplier' for certain items / packages, the 'local content' shall be as per the prescribed requirement in respect of such items / packages.

2.0DOCUMENTS OF EOI

This EOI document comprises of the following sections:

(iii) Section III : Instructions to the Applicants (iv) Section IV : Consideration of Response

(v) Section V : Application Form and Annexures

Section I: EOI Information

NTPC Shared Service Centre- DBF & Hydro invites Expression of Interest from Class-I/Class-II Local Suppliers for development of spares and their supply to NTPC's Gas power stations located at Dadri (UP) & Faridabad (Haryana).

- NTPC Limited (A Government of India Enterprise) units located at Dadri and Faridabad are in process of developing spares for Gas Turbines by Class-I/Class-II Local Suppliers for use in their machines located at above stations. Details of the two power stations and the machines where the spares are to be used are as per Annexure-1
- 2. In this regard, NTPC Limited invites Expression of Interest (EOI) from MSMEs/ any Indian Company/ consortium (hereinafter called APPLICANT) Meeting Minimum Local Content (MLC), for development of spares through the following process
 - a) Preparation of drawings from original/ already run components.
 - b) Determining material composition from NTPC/ Govt approved labs, and sharing information with NTPC.
 - c) Approval & handover of drawings to NTPC
 - d) Manufacturing of sample on NTPC's clearance
 - e) Bulk supply after obtaining fitment approval of NTPC.

The participation in EOI may be done through consortium; however, the consortium shall have to form a JV company before issue of formal tender enquiry.

DOWNLOADING AND TIME LINES FOR SUBMISSION OF EOI

a. Interested APPLICANTs may download the documents of EOI free of cost from www.ntpctender.com.

b. Last date for queries/ seeking clarifications : 03.05.2021

c. Last date for submission of EOI: 18.05.2021

d. Date of opening of EOI response: 20.05.2021

e. Validity of response : 180 days from opening EOI

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.

Section II : Introduction

1. <u>INTRODUCTION</u>

- i. NTPC Limited (www.ntpc.co.in) is a leading power generation company of India. It has been ranked No#2 Independent Power Producer (IPP) in the world as per Platts (2019). The Company is listed in Indian stock exchange with a market capitalization of INR 874.17billion.
- ii. NTPC Limited produces around 300 Billion units of electricity annually through its cluster of gas, coal, hydro and RE based power stations of more than 62GW capacity spanning across the country. Company has presence in almost all states of the country.
- iii. With revenues from operations INR 1094.64 billion (14.5 billion USD) through its paid-up equity of INR 98.94 billion (1.3 billion USD), NTPC group achieved a net profit of INR 119.01 billion (1.6 billion USD) in the financial year 2020 and has been consistently paying dividends to its shareholders for the last 26 years.

2. <u>INTENT OF THE EXPRESSION OF INTEREST (EOI)</u>

- i. The objective is to provide opportunity MSMEs and other—companies registered in India, to develop import substitutes of Gas Turbine spares and components, developing domestic capability of Indian entrepreneurs, by utilizing their core competence and infrastructure, thus make them competitive in world market with very competitive electricity rates.
- ii. The major roles and responsibilities of the major stakeholders shall be as follows:

NTPC's Role:

- Offer new/ old components/ spares to vendors for development of drawings.
- Offer sample of old/ new components to vendor for determining its material composition from NTPC/ Govt approved labs.
- Examine and approve detailed dimensional drawings developed by vendors.
- Check fitment of vendor-developed sample as per approved drawing.
- Give clearance to vendor for bulk production.

Manufacturer's Role:

- Collection of old/ new components from NTPC for development of drawings.
- Collect sample of old/ new components from NTPC and determining its material composition from NTPC/ Govt approved labs.
- Development of drawing and submission to NTPC for approval.

- Manufacture & supply sample spare/ component to NTPC for fitment checking and approval.
- **-** Bulk production & supply of spare/ component to NTPC.

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

The response(s) received in the EOI will be utilized by NTPC for:

- a. Formulating the specifications of Gas Turbine spares.
- b. Processing application for the approval of enlisted bidders.
- c. Finalizing commercial agreement with the shortlisted prospective manufacturer.

NTPC reserves the right to reject any or all submissions, even without achieving stated objective(s) of EOI, without assigning any reasons and liability thereof.

Section III: Instructions to the Applicants

- 1. 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 through GePNIC Portal.
 - c. Applicants should go through all 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, interalia, for the purpose of removal of inconsistencies or infirmities in their responses.

2. Enquiries and clarifications

Any clarifications on the EOI may be sought from the following via email/ phone: dhirendrajajoria@ntpc.co.in/gurpratapsingh (Phone- 0129-2404519/2404518), or: dchattopadhyay@ntpc.co.in, (Phone- 0129-2404512)

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

3. Preparation of the response to EOI:

The application of EOI consists of Annexure 2 & 3 of Section-V

4. Validity of the responses

The Applicant shall submit the responses, which shall remain valid up to one hundred and eighty (180) days from date of opening of EOI ("Response Validity"). NTPC reserves the right to reject any response, which does not meet the aforementioned 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/ email. 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.

5. Submission of the response to EOI

The responses to the EOI are to be submitted in GePNIC.All the pages of the response should be duly stamped and signed by the authorized signatory in whose favor the Power of Attorney is issued.

The responses to the EOI should be submitted within the deadline at the email address provided in the Section-I of this EOI.

6. Opening of responses to the EOI

The responses to the EOI shall be opened as per the time schedule as mentioned in GePNIC.

In the event of any of above dates falling on a day which is not a working day or which is a public holiday, the responses shall be opened on the next working day at the same venue and time.

7. Costs and expenses towards response to EOI

The Applicants shall be responsible for all the costs associated with the preparation of the response, 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. 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.

9. Disclaimer

- a) This Expression of Interest (EOI) has been prepared by NTPC Ltd. for response from MSMEs/ any Indian Company for development of Gas Turbine spares.
- b) In submitting an expressed EOI in response to the EOI, the Applicants 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.

Section IV: Consideration of Response

RESPONSIVENESS/EVALUATION METHODOLOGY

The responses submitted by Applicants shall be scrutinized to establish interest in development of Gas Turbine spares for NTPC. Responses may be considered non-responsive for following reasons:

- (a) 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.
- (b) Responses not signed by authorized signatory and/ or stamped in the manner indicated in this EOI.
- (c) Material inconsistencies in the information/ documents submitted by the Applicant.
- (d) An Applicant submitting more than one response to this EOI, either itself or through an affiliate or subsidiary company.
- (e) Response validity being less than that required as per Clause 5 of section- III of this EOI.
- (f) Response being conditional in nature.
- (g) Response not received by the response deadline.
- (h) Response having Conflict of Interest.
- (i) 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.

Section V: Application Form and Annexures

Annexure-1

Brief about the stations-

SI. No.	Power station	State	Nearest City	Nearest Railway station	Nearest Airport
1	Dadri Gas Power Station, PO: Vidyut Nagar, Distt: Gautam Budh Nagar, PIN-201008	Uttar Pradesh	Ghaziaba d (20 kms)	Ghaziabad (20 kms)	Delhi (64 kms)
2	Faridabad Gas Power Station, Vill: Mujedi. PO: Neemka, Dist- Faridabad PIN-121004	Haryana	Faridabad (08 Kms)	Faridabad (08 Kms)	Delhi (42 Kms)

TECHNICAL SPECIFICATION OF V94.2 SIEMENS DESIGN GAS TURBINES OF DADRI GPS

1. OPERATING CONDITIONS:

1.1 There are 4 Nos. of V94.2 PRE RATIO Gas Turbines (Siemens AG make) installed at Dadri Gas Power Station of NTPC Ltd. (India). Brief operating details for these machines is as follows:

S. No.	PARAMETER	DESCRIPTION	
Α	Design Site Conditions	27° C ambient temperature, barometric pressure	
Λ.	Design Site Conditions	0.9870 bar, 60% RH, and 50 Hz frequency.	
	Gas Turbine Output:		
В	At ISO conditions	142.42 MW (Base Load)	
	At Design Site Conditions	131.31 MW (Base Load)	
С	Gas Turbine Compression	10.24	
	Ratio	10.24	
D	Gas Turbine Exhaust Flow at	471 6 Va/C (Page Lead)	
D	Design Site conditions	471. 6 Kg/S (Base Load)	
Е	Turbine Inlet Temperature as	$1060~^{\circ}\text{C}$ at base load & $1100~^{\circ}\text{C}$ peak load	
L.	per ISO 2314	1000 °C at base load & 1100 °C peak load	
F	Fuel	Natural Gas and High Speed Diesel (HSD) oil.	
G	Type of duty	Base load and cyclic	
Н	Operating frequency range	47.5 – 51.5 HZ	
Ţ	Air Quality	Gas turbines are provided with high efficiency	
1	Air Quality	filtration system that meets air quality requirement	

		as specified by OEM.
J	Year of manufacturing	1990

1.2 Detailed analysis of Natural Gas and HSD being fired at Dadri is given below:

Natural Gas Analysis

SI. No.	COMPOSITION	Unit	Specified Values	Typical Values
a.	Methane (C1)	% by Volume	> 75%	90.20
b.	Ethane (C2)	% by Volume		4.36
c.	Propane (C3)	% by Volume		1.00
d.	Butane (C4)	% by Volume	<20%	0.03
e.	Higher hydrocarbons (C5+C6+C7)	% by Volume		-
f.	Non combustible gases including Nitrogen & Carbon-dioxide	% by Volume	<8%	4.4
g.	Total sulfur Content as H ₂ S	PPM by Volume	<10	-
h.	Calorific Value (NCV)	kcal/scm	7700 min.	8180
i.	Natural Gas Filtration Efficiency	-	98% at 5 micron	

High Speed Diesel Oil (HSD) analysis

DESCRIPTION	Unit	Range/ Limit	Typical Values
		IS:1460-2000	
Kin. Viscosity at 40 °C -min./max.	cSt	2.0-5.0	2.8
Density at 15° C (max.)	Kg/m ³	820-860	831
Pour point max.	° C	3º C for Winter	-6
		6º C for Summer	
Flash Point, min. (Abel)	о С	35	52
Carbon residue, max.	%	0.3	0.18
Ash, max.	%, (Wt.)	0.01	0.008
Water, max.	%, vv	0.05	< 0.05
Sediment, max.	% (wt.)	0.05	< 0.01
Sulfur, max.	% (wt.)	0.25	0.06
GCV, max. /min. (At 15 ° C)	Kcal/ kg	10,990-10,850	10900 (Apx.)
Acidity, Inorganic max.	mg KOH/ g	Nil	Nil
Acidity, Total, Max.	mg KOH/ g	0.2	0.03
Copper Strip Corrosion @1000C for 3 Hours, Max.,		ASTM1	<astm1< td=""></astm1<>

Distillation -	0C	350	345
85% Vol Recovery @0C, Max.		370	357
B) 95% Vol. Recovery @0C, Max.			
Vanadium	ppm (wt.)	-	0.3
Sodium	ppm (wt.)		0.4
Potassium	ppm(wt.)		0.3
Lead	ppm(wt.)		<0.1
Zinc	ppm (wt.)		< 0.1
Calcium	ppm (wt.)		2.5

TECHNICAL SPECIFICATION OF V94.2 (Version-3) SIEMENS DESIGN GAS TURBINES OF FARIDABAD GPS

2. **OPERATING CONDITIONS**:-

2.1 There are 2 Nos. of V94 (Version 3) Gas Turbines (Siemens AG make) installed at Faridabad Gas Power Project of NTPC Ltd. (India). Brief operating details for these machines is as follows:

S.	PARAMETER	DESCRIPTION	
No.			
Α	Design Site Conditions	27 ⁰ C ambient temperature, barometric	
		pressure 0.9880 bar, 60% RH, and 50 Hz	
		frequency.	
В	Gas Turbine Output:		
	At ISO conditions	144 MW (Base Load)	
	At Design Site Conditions	137.75 MW (Base Load)	
С	Gas Turbine Compression Ratio	11:1	
D	Gas Turbine Exhaust Flow at	493 Kg/S (Base Load)	
	Design Site conditions		
Е	Turbine Inlet Temperature as per	1060 °C at base load & 1100 °C peak load	
	ISO 2314		
F	Fuel	Natural Gas and High Speed Diesel (HSD) oil.	
G	Type of duty	Base load and cyclic	
Н	Operating frequency range	47.5 – 51.5 HZ	
I	Air Quality	Gas turbines are provided with high	
		efficiency filtration system that meets air	
		quality requirement as specified by OEM.	
J	Year of manufacturing	1998	

2.2 Detailed analysis of Natural Gas and HSD being fired at Faridabad is given below-

Natural Gas Analysis

SI. No.	COMPOSITION	Unit	Specified Values	Typical Values
a.	Methane (C1)	% by Volume	> 75%	90.20
b.	Ethane (C2)	% by Volume		4.36
C.	Propane (C3)	% by Volume		1.00
d.	Butane (C4)	% by Volume	<20%	0.03
e.	Higher hydrocarbons (C5+C6+C7)	% by Volume		-
f.	Non combustible gases including Nitrogen & Carbon-dioxide	% by Volume	<8%	4.4
g.	Total sulfur Content as H ₂ S	PPM by Volume	<10	-
h.	Calorific Value (NCV)	kcal/scm	7700 min.	8180
i.	Natural Gas Filtration Efficiency	-	98% at 5 micron	

High Speed Diesel Oil (HSD) analysis

DESCRIPTION	Unit	Range/ Limit IS:1460-2000	Typical Values
Kin. Viscosity at 40 °C -min./max.	cSt	2.0-5.0	2.8
Density at 15° C (max.)	Kg/m ³	820-860	831
Pour point max.	o C	3 ° C for Winter 6 °C for Summer	-6
Flash Point, min. (Abel)	о С	35	52
Carbon residue, max.	%	0.3	0.18
Ash, max.	%, (Wt.)	0.01	0.008
Water, max.	%, vv	0.05	< 0.05
Sediment, max.	%(wt.)	0.05	< 0.01
Sulfur, max.	%(wt.)	0.25	0.06
GCV, max. /min. (At 15 ° C)	Kcal/kg	10,990-10,850	10900(Apx.)
Acidity, Inorganic max.	mg KOH/g	Nil	Nil
Acidity, Total, Max.	mg KOH/g	0.2	0.03
Copper Strip Corrosion @100°C for 3 Hours, Max.,		ASTM1	<astm1< td=""></astm1<>
Distillation - A) 85% Vol Recovery @ºC, Max.	°C	350 370	345 357

B) 95% Vol. Recovery @°C, Max.			
Vanadium	ppm (wt.)	-	0.3
Sodium	ppm (wt.)		0.4
Potassium	ppm(wt.)		0.3
Lead	ppm(wt.)		<0.1
Zinc	ppm (wt.)		< 0.1
Calcium	ppm (wt.)		2.5

Spares proposed to be developed through domestic vendors

SI no.	Station	Spare required
1	Dadri GPS	V94.2 TURBINE STAGE #3 STATOR VANE
2	Dadri GPS	ROTOR MID HOLLOW SHAFT
3	Dadri GPS	COMPRESSOR DIAPHRAGM COMPLETE SET (STAGE:1 TO 16)
4	Dadri GPS	TURBINE STAGE # 4 ROTOR BLADES
5	Dadri GPS	COMPRESSOR END HOLLOW SHAFT
6	Dadri GPS	TURBINE END HOLLOW SHAFT
7	Dadri GPS	COMPRESSOR BLADES ROW #1 TO ROW #15
8	Dadri GPS	FUEL OIL BURNERS
9	Dadri GPS	SPARES FOR OVERHAULING
10	Dadri GPS	INNER CASING
11	Dadri GPS	MIXING CHAMBER
12	Dadri GPS	V94.2 TURBINE STAGE #3 STATOR VANE
13	Faridabad GPS	MID HOLLOW SHAFT FOR SIEMENS V94.2 (VERSION 3) GAS TURBINE
14	Faridabad GPS	ASSEMBLY MATERIAL FOR BLADES AND VANES FOR SIEMENS V94.2 (VERSION 3)GAS TURBINE
15	Faridabad GPS	BRICKS AND BRICKS HOLDERS FOR SIEMENS V 94.2 (VERSION 3) GAS TURBINE.
16	Faridaba GPS	GT COMPRESSOR ROTOR WHEEL/ DISC STAGE 13 TO 16 FOR SIEMENS V94.2 (VERSION 3) GAS TURBINE.
17	Faridabad GPS	MANHOLE INSERT FOR SIEMENS V94.2 (VERSION 3) GAS TURBINE
18	Faridabad GPS	TURBINE ROTOR DISCS STAGE 1 TO 4 FOR SIEMENS V94.2 (VERSION 3) GAS TURBINE
19	Faridabad GPS	TURBINE L&X RINGS STAGE 1 TO 3 FOR SIEMENS V 94.2 (VERSION 3) GAS TURBINE

Annexure-2

FORMAT FOR COVERING LETTER CUM UNDERTAKING

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

Date : Place :		
То,		
Sub.: (INVITATION FOR E	XPRESSION OF INTEREST)	
Ref.: EOI No	, dated	(the "EOI")
Dear Sir,		
examined and understoo INTEREST). We confirm that neither w	d in detail the (INVITAT ve nor any of our Parent C	"Applicant"] having read, ION FOR EXPRESSION OF Company/ Affiliate/ Ultimate in this response directly or
indirectly in response to th	•	,
In token of our accep	otance to the EOI, the solutions closed to the response. W	ssued by NTPC, as amended. same have been signed & Ve hereby confirm that the
		provisions and formats of nd without mentioning any
made by NTPC in respe shall be binding on us respect of EOI process	ect of any matter regarding. We hereby expressly we. We confirm that there are rially affect our ability to p	and accept that the decision og or arising out of the EOI raive any and all claims in re no litigations or disputes participate or function under
4. Details of the contact	person are furnished as be	low:
Name : Contact numbers:	Designation:	Address: email id:

5. We are enclosing herewith the entire response containing duly signed formats in electronic format & uploading in GePNIC as per 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.
- 8. We confirm that all the terms and conditions of our response are valid for acceptance for a period of one hundred and eighty (180) days from the response Deadline.
- 9. We confirm that we have not taken any deviation so as to be deemed "Non-Responsive" as stipulated in Section-IV of this EOI.
- 10. We understand that you are not bound to accept any response you receive.

We remain,

Yours sincerely

(Name, Designation, Signature & stamp of Authorized Person in whose name Power of Attorney is issued)

Annexure-3

INFORMATION TO BE SUBMITTED BY APPLICANT

(Note: Applicant can apply for more than one location with more than one manufacturing set-up. Supporting documents 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. Documents to be enclosed:

Technical Credentials – Relevant Product/ System catalogues, Experience/ Reference List, Copies of Customer Certificates, Engineering strengths, collaborations/ tie-ups with manufacturer (if applicable), quality accreditations, etc. Financial Credentials – Copies of Audited Financial statements (Annual Reports) for last 3 years, Credit Rating, Market share (Domestic/International), Segmental Revenue in the applied category(ies).

9. Any other documents considered relevant.

(Sign & Company Seal) Authorized signatory