



THE DURGAPUR PROJECTS LIMITED

NOTICE INVITING TENDER (NIT)

e-Procurement

NIT No: WBDPL/PP/T/PP-435B/2021/21-22/E-015 , Dtd:-12/04/2022

National Competitive Bidding

For

E-tender cum Reverse Auction for “Design & Engineering, Manufacture/ Procurement, Supply, Erection, Testing and Commissioning of Total 20MW (7 MW , 8 MW & 5 MW) Phase-II Grid Connected Ground Mounted Solar Photovoltaic Power Plants at Durgapur Projects Limited(DPL), Durgapur, West Bengal on Turnkey basis with 05 (Five) years comprehensive Operation and Maintenance”.

**THE DURGAPUR PROJECTS LIMITED
(A Govt. of West Bengal Enterprise)
CIN: “U40102WB1961SGC025250”**

Dr Bidhan Chandra Roy Avenue, Industrial Area, Durgapur, West Bengal-713201

CONTENTS

SECTION-I.....	13
BID SUMMARY.....	13
1.01 GENERAL	13
1.02 SECTION-II: INSTRUCTION TO BIDDER.....	13
1.03 SECTION-IV: SPECIAL CONDITION OF CONTRACT(SCC)	15
1.04 SECTION-V: TECHNICAL SPECIFICATION.....	17
1.04.01 MAIN OBJECTIVES:.....	17
1.04.02 CIVIL ENGINEERING	17
1.04.03 ELECTRICAL ENGINEERING.....	18
SECTION-II	20
INSTRUCTION TO THE BIDDER	20
A. SCOPE & QUALIFICATION:	20
2.01.00 INTRODUCTION.....	20
2.02.00 NAME OF THE WORK	20
2.03.00 SOURCE OF FUND	21
2.04.00 SCOPE OF WORK	21
2.05.00 QUALIFYING REQUIREMENT FOR BIDDERS	25
2.06.00 RESPONSIBILITY OF BIDDERS.....	31
2.07.00 COST/EXPENDITURE OF BIDDING	32
B. THE BIDDING DOCUMENTS	33
2.08.00 CONTENTS OF BIDDING DOCUMENTS	33
2.09.00 SITE VISIT	34
2.10.00 CLARIFICATIONS ON BIDDING DOCUMENTS	35
2.11.00 PRE-BID MEETING	35
2.12.00 AMENDMENT OF BIDDING DOCUMENTS.....	36

Contents

C.	PREPARATION OF BIDS.....	37
2.13.00	DOCUMENT CONSTITUTE THE BID.....	37
2.14.00	DEVIATION.....	37
2.15.00	GENERAL GUIDANCE FOR E- TENDER	38
2.16.00	BID PRICES	38
2.17.00	PERIOD OF VALIDITY OF BIDS.....	41
2.18.00	BID SECURITY	41
2.19.00	SIGNING OF BIDS	43
D.	SUBMISSION OF BID.....	43
2.20.00	SUBMISSION OF BID.....	43
2.21.00	DEADLINE FOR SUBMISSION OF BIDS	47
2.22.00	WITHDRAWAL OF BIDS	48
E.	OPENING AND EVALUATION OF TENDER	48
2.23.00	BID OPENING	48
2.24.00	PROCESS TO BE CONFIDENTIAL	49
2.25.00	CLARIFICATION OF BIDS	49
2.26.00	DETERMINATION OF RESPONSIVENESS.....	50
2.27.00	CORRECTION OF ARITHMETICAL ERRORS IN PRICE ...	51
2.28.00	TIME SCHEDULE	51
2.29.00	PROCEDURE OF EVALUATION OF BIDS.....	51
2.30.00	COMPARISON OF BIDS	52
2.31.00	REVERSE AUCTION.....	52
F.	AWARD OF CONTRACT	60
2.32.00	AWARD CRITERIA	60
2.33.00	RIGHT TO REJECT/CANCEL BIDS	61
2.34.00	LETTER OF AWARD.....	61
2.35.00	SIGNING OF CONTRACT AGREEMENT	61
2.36.00	CONTRACT PERFORMANCE GUARANTEE	62

Contents

2.37.00	ADDITIONAL PERFORMANCE GUARANTEE	62
2.38.00	FORFEITURE OF ACPG	63
2.39.00	MISREPRESENTATION BY THE BIDDER.....	63
2.40.00	CORRUPT OR FRAUDULENT PRACTICES	63
SECTION-III	.....	65
GENERAL CONDITIONS OF CONTRACT (GCC)		65
A. CONTRACT AND INTERPRETATION		65
3.01.00	DEFINITION OF TERMS	65
3.02.00	INTERPRETATION OF CONTRACT DOCUMENTS.....	70
3.03.00	GOVERNING LAW	74
3.04.00	NOTICE:	74
3.05.00	SETTLEMENT OF DISPUTES	74
3.06.00	COMPLIANCE WITH LAWS.....	76
3.07.00	CONTRACT DOCUMENTS	76
3.08.00	COMPLIANCE OF STATUTORY REQUIREMENT	78
3.09.00	REGULATIONS & STANDARDS	79
B. SUBJECT MATTER OF CONTRACT		79
3.10.00	SCOPE OF WORKS	79
3.11.00	VARIATION, ADDITIONS AND OMISSIONS	82
3.12.00	OBLIGATIONS OF THE CONTRACTOR	82
3.13.00	OBLIGATIONS OF THE PURCHASER	83
C. PAYMENT		84
3.14.00	CONTRACT PRICE	84
3.15.00	TERMS AND PROCEDURE FOR PAYMENT	84
3.16.00	SECURITIES	84
3.17.00	TAXES, DUTIES AND OTHER LEVIES	86
3.18.00	REVERSE CHARGE MECHANISM	88
3.19.00	GST ON LD	88

Contents

D. INTELLECTUAL PROPERTY	89
3.20.00 PATENT RIGHTS & ROYALTIES.....	89
3.21.00 CONFIDENTIAL INFORMATION	90
3.22.00 ADVERTISING	91
E. WORK EXECUTION	91
3.23.00 PURCHASER'S REPRESENTATIVE	91
3.24.00 CONTRACTOR'S REPRESENTATIVE.....	92
3.25.00 ISSUANCE OF GATE PASS.....	93
3.26.00 COMPLETION TIME	94
3.27.00 PROGRAMME	94
3.28.00 PROGRESS REPORT	96
3.29.00 LABOUR	96
3.30.00 PROGRESS OF PERFORMANCE.....	100
3.31.00 DESIGN AND ENGINEERING	100
3.32.00 PROCUREMENT	102
3.33.00 CONTRACTOR'S CONSTRUCTION MANAGEMENT	103
3.34.00 INSPECTION & TESTING	107
3.35.00 TESTS ON COMPLETION	111
3.36.00 REJECTION	112
3.37.00 PERMISSION TO DELIVER.....	113
3.38.00 COMPLETION OF WORKS.....	113
3.39.00 TAKING OVER	114
3.40.00 CLEAN-UP AND WASTE DISPOSAL	116
F. LIABILITIES	117
3.41.00 DEFECTS LIABILITY	117
3.42.00 LIMITATIONS OF LIABILITY	120
G. RISK DISTRIBUTION	121
3.43.00 TRANSFER OF PURCHASERSHIP.....	121

Contents

3.44.00	RISK AND RESPONSIBILITY	122
3.45.00	CARE OF WORKS	123
3.46.00	ACCIDENT OR INJURY	124
3.47.00	INSURANCE	124
3.48.00	CHANGE IN LAWS AND REGULATIONS	126
3.49.00	FORCE MAJEURE	126
3.50.00	WAR RISKS.....	128
H.	CHANGE IN CONTRACT ELEMENTS	128
3.51.00	VARIATIONS	128
3.52.00	EXTENSION OF TIME FOR COMPLETION	131
3.53.00	TERMINATION	132
3.54.00	ASSIGNMENT & SUB-CONTRACTING	137
3.55.00	JOINT AND SEVERAL LIABILITY	138
I.	SAFETY CODE	139
3.56.00	GENERAL	139
3.57.00	MEDICAL EXAMINATION OF WORKER	140
3.58.00	FIRST AID AND INDUSTRIAL INJURIES:	141
3.59.00	CONTRACTOR'S BARRICADES	141
3.60.00	SCAFFOLDING:	142
3.61.00	EXCAVATION AND TRENCHING	143
3.62.00	DEMOLITION.....	143
3.63.00	SAFETY EQUIPMENT	144
3.64.00	ENGAGEMENT OF SAFETY PERSONNEL	145
3.65.00	EQUIPMENT QUALITY	146
3.66.00	RISKY PLACES	146
3.67.00	ELECTRICAL EQUIPMENT	146
3.68.00	MAINTENANCE OF SAFETY DEVICES.....	147
3.69.00	PENALTY	147
3.70.00	NO EXEMPTION	148

Contents

3.71.00	FIRE FIGHTING MEASURES	148
3.72.00	ACCIDENT OR INJURY TO WORKMEN.....	148
SECTION -IV	.....	149
SPECIAL CONDITIONS OF CONTRACT (SCC)	.....	149
4.01.00	DEFINITION.....	149
4.02.00	CONTRACT PERFORMANCE BANK GUARANTEE (CPBG) 150	
4.03.00	PERFORMANCE SECURITY	151
4.04.00	PAYMENT TERMS	152
4.05.00	DEFECTS LIABILITY PERIOD:.....	159
4.06.00	INCREASE IN COST.....	159
4.07.00	ESCALATION	159
4.08.00	NOTICES	159
4.09.00	QUANTITY OF WORK.....	160
4.10.00	PROJECT MANAGEMENT	160
4.11.00	NET MINIMUM GUARANTEED GENERATION (NMGG) ..	162
4.12.00	LIQUIDATED DAMAGES	163
4.13.00	DESIGN AND ENGINEERING	167
4.14.00	TRAINING OF OWNER'S ENGINEER.....	168
4.15.00	TAKING OVER	168
4.16.00	COMPREHENSIVE OPERATION & MAINTENANCE	169
4.17.00	WARRANTY OF EQUIPMENT.....	175
4.18.00	MANUFACTURER WARRANTY CERTIFICATE	175
4.19.00	PERFORMANCE GUARANTEE OF PV MODULE	176
4.20.00	PERFORMANCE GUARANTEE (PG) TEST	176
SECTION-V	.....	181
TECHNICAL SPECIFICATION	.....	181
A.	LEAD SPECIFICATION	181
5.01.00	INTENT OF SPECIFICATION.....	181

Contents

5.02.00	SCOPE OF SUPPLY	183
5.03.00	SCOPE OF SERVICES	185
5.04.00	SYSTEM LAYOUT	186
B.	GENERAL INFORMATION	190
5.05.00	INTRODUCTION	190
5.06.00	MODE OF EXECUTION	191
5.07.00	SITE INSPECTION	191
5.08.00	FACILITIES BY THE OWNER	192
5.09.00	RESPONSIBILITY FOR DESIGN	192
5.10.00	MATERIALS	193
5.11.00	INSPECTION AND TESTING	194
TECHNICAL SPECIFICATION		195
CIVIL ENGINEERING		195
5.11.00	GENERAL	195
5.12.00	TOPOGRAPHY SURVEY	200
5.13.00	GEOTECHNICAL INVESTIGATION SCHEME	203
5.14.00	SITE LEVELLING AND GRADING	205
5.15.00	DESIGN OF MMS	206
5.16.00	CIVIL & STRUCTURE WORKS	215
5.17.00	GENERAL CIVIL WORKS	224
5.18.00	TOILET	236
5.19.00	OVERHEAD WATER TANK	237
5.20.00	DRAINAGE FOR TOILETS	237
5.21.00	WATER SUPPLY & CLEANING	237
5.22.00	WATCHMEN / SECURITY CABIN	237
5.23.00	MODULE WASHING SYSTEM & WATER STORAGE:	237
5.24.00	ADDITIONAL REQUIREMENT:	242
5.25.00	PAVING OF THE AREA	242

Contents

TECHNICAL SPECIFICATION	244
ELECTRICAL ENGINEERING	244
C. DC SYSTEM	244
5.27.00 PV MODULE	244
5.28.00 MODULE MOUNTING STRUCTURE (MMS)	255
5.29.00 DC CABLES	258
5.30.00 STRING COMBINER BOX (SCB)	262
5.31.00 POWER CONDITIONING UNIT(PCU)	270
D. AC SYSTEMS	284
5.32.00 LT SWITCHGEAR	284
5.33.00 MV SWITCHGEAR.....	294
5.34.00 INVERTER DUTY TRANSFORMER.....	331
5.35.00 STATION AUXILLARY TRANSFORMER	343
5.36.00 CABLES.....	348
5.37.00 LT POWER CABLES	350
5.38.00 LT CONTROL CABLES	355
5.39.00 HT CABLES	358
5.40.00 COMMUNICATION CABLE (OFC).....	367
5.41.00 INSTRUMENTATION CABLES.....	368
5.42.00 CABLE INSTALLATION METHODOLOGY	373
5.43.00 CONTROL, MONITORING AND DATA ACUSITION.....	388
5.44.00 EARTHING SYSTEM.....	415
5.45.00 PLANT ILLUMINATION SYSTEM	429
5.46.00 AUXILLARY POWER SUPPLY SYSTEM.....	436
5.47.00 LIGHTNING PROTECTION SYSTEM.....	450
5.48.00 METERING SYSTEM	452
5.49.00 WEATHER MONITORING STATION(WMS).....	455
E. MISCELLANEOUS WORKS	460

Contents

5.50.00	FIRE PROTECTION SYSTEM	460
5.51.00	CLOSED CIRCUIT TELEVISION (CCTV) SYSTEM	461
5.52.00	VENTILATION SYSTEM	468
5.53.00	AIR CONDITIONING SYSTEM	470
5.54.00	DRINKING WATER	471
5.55.00	SIGNAGE	471
5.56.00	FIRE BUCKETS AND HOLDING STANDS	472
5.57.00	TOOLS, TACKLES AND SPARES	473
5.58.00	OTHER CONDITIONS	473
5.59.00	APPROVED VENDOR LIST FOR BOIs:	473
5.60.00	LIST OF MANDATORY SPARES	475
SECTION – VI	.....	481
FORMS .....	.....	481
FORM-1: CHECK LIST .....	.....	482
FORM-2: FORWARDING LETTER FOR BID SECURITY AND TENDER FEE .....	.....	484
FORM-3: BID FORM/UNDERTAKING .....	.....	486
FORM-4: BID SECURITY .....	.....	490
FORM-5: SUMMARY STATEMENT OF YEARLY TURNOVER AND NET WORTH .....	.....	492
FORM-6: CAPABILITY STATUS .....	.....	493
FORM-7: SIMILAR TYPE OF ORDERS .....	.....	494
FORM-8: CURRICULUM VITAE OF KEY PERSONNEL .....	.....	495
FORM-9: FORMAT FOR SUBMISSION OF PRE-BID QUERIES .....	.....	496
FORM-10: PROPOSED MODIFICATIONS .....	.....	497
FORM-11: PROFORMA FOR JOINT VENTURE/CONSORTIUM AGREEMENT .....	.....	498
FORM-12: POWER OF ATTORNEY .....	.....	501
FORM-13: DECLARATION FOR NMGG .....	.....	503

Contents

SECTION – VII	504
ANNEXURES	504
ANNEXURE-1: CONTRACT AGREEMENT	505
ANNEXURE-2: BG (CONTRACT PERFORMANCE)	507
ANNEXURE-3: BG (MOBILISATION ADVANCE)	510
ANNEXURE-4: FOR EXTENSION BG	512
ANNEXURE-5: INDEMNITY BOND	513
ANNEXURE-6: COMPLETION CERTIFICATE	516
ANNEXURE-7: APPLICATION FOR PAYMENT	517
ANNEXURE-8: TAKING OVER CERTIFICATE.....	518
ANNEXURE-9: NO-CLAIM CERTIFICATE.....	519
ANNEXURE-10A: INDEMNITY FOR EQUIPMENT	520
ANNEXURE-10B: APPLICATION FOR MATERIAL GATE PASS	523
ANNEXURE-11: AUTHORISATION LETTER	524
ANNEXURE-12: MATERIAL RECEIPT CERTIFICATE.....	525
ANNEXURE-13: RECORD BOOK FOR GRID OUTAGE	526

Contents

IMPORTANT DATES

#	NIT NO. & Date	:	WBDPL/PP/T/PP-435B/2021/21-22/E-015 , Dtd:- 12/04/2022
1	Publishing Date	:	12.04.2022 at 15:00 Hrs.
2	Document Download start date	:	12.04.2022 at 15:00 Hrs
3	Pre-bid queries submission end date	:	18.04.2022 at 17:00 Hrs
4	Pre-Bid Meeting	:	19.04.2022 at 11:30 Hrs
5	Bid submission start date	:	25.04.2022 from 10:00 Hrs
6	Bid submission end date	:	14.05.2022 till 15:00 Hrs
7	EMD Submission End Date	:	17.05.2022 till 15:00 Hrs
8	Technical Bid opening date	:	18.05.2022 at 13:00 Hrs
9	Uploading of Technical Bid Evaluation sheet	:	To be notified through system generated message
10	Financial Bid opening date	:	To be notified through system generated message
11	Uploading of Financial Bid evaluation sheet	:	To be notified through system generated message

SECTION-I

BID SUMMARY

1.01 GENERAL

In this section brief summary of the tender has been discussed, this is only for quick overview of the Tender documents. This information is also not sufficient to clarify all the terms and condition, supply and service scope of the tender. Bidders are requested to go through these tender documents thoroughly before participating the Tender. Purchaser will not be responsible for any type of negligence of the bidder

1.02 SECTION-II: INSTRUCTION TO BIDDER

SN	Subject	Remarks
1.	For any Bid quarry contact Person	Mr. Sudito Pal, DGM(PPC), Ph-9434735849, email- renewablesdpl2022@gmail.com Mr. Partha De, Sr.Mgr(CC), Ph-9434713057
2.	Tender Inviting Authority	Sr. Mgr (Contract Cell), DPL, e-mail- contractcelldpl@gmail.com
3.	Tender Cost	Nil
4.	Bid Security/EMD	Rs. 2.00 Crores
5.	Contract Performance BG(CPBG)	3% of the Contract Value, EMD may convert to CPBG, additional 10% of the Contract value of CPBG is required if bid price less than Rs. 79.46 Crores plus GST
6.	QUALIFICATION REQUIREMENT	
A	Technical	
	Job Experience	
	a) At least one (01) number 7(Seven) MW capacity or two(2) number Four(4) MW Capacity or higher capacity Solar PV project installation at a single location during preceding 07 (Seven) years.	
	b) Minimum 01 (one) number 7 (Seven) MW or or two(2) number Four(4) MW	

Section-I: Bid Summary

	<p>or higher capacity Solar PV Power Plant Operation and Maintenance (O&M) experience</p> <p>c) If Consortium:</p> <ul style="list-style-type: none"> i. Maximum three(3) member ii. Each of the other Member(s) shall meet at least 30% of the required Technical Capacity and 20% of the required Financial Capacity <p>The Bidders must have experience of having successfully executed similar works during last seven years ending last day of month previous to the one in which the applications are invited should be either of the following:</p> <ul style="list-style-type: none"> • Three (03) similar completed works, each costing not less than the amount Rs. 39.80 Cr. (+) GST as applicable • Two (02) similar completed works, each costing not less than the amount Rs. 49.75 Cr. (+) GST as applicable • One (01) similar completed work costing not less than the amount Rs. 79.60 Cr. (+) GST as applicable 				
B	<p>Financial</p> <table border="1"> <tr> <td>Minimum Average Annual Turnover (MAAT)</td><td>Rs.30.00 Cr.</td></tr> <tr> <td>Net worth for last 3 years ending 31st March 2021</td><td>Positive</td></tr> </table>	Minimum Average Annual Turnover (MAAT)	Rs.30.00 Cr.	Net worth for last 3 years ending 31 st March 2021	Positive
Minimum Average Annual Turnover (MAAT)	Rs.30.00 Cr.				
Net worth for last 3 years ending 31 st March 2021	Positive				
7.	PRICE SCHEDULE				
8.	TYPE OF BID PROPOSAL				
9.	Period of validity of Bid				
10.	Bidding Process				

Section-I: Bid Summary

<p>11.</p> <p>Note</p>	<p>Single NIT for three separate projects . LOA/PO will be issued separately for individual projects. Penalty, LD, NMGG etc will be separate for separate projects L1 will be selected on the basis of Grand Total (Base price) of Three project cost.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; padding: 5px;">Project</th><th style="text-align: center; padding: 5px;">Scheme</th><th style="text-align: center; padding: 5px;">Bid Base price (Party # 1)</th><th style="text-align: center; padding: 5px;">Bid Base price (Party # 2)</th></tr> </thead> <tbody> <tr> <td style="text-align: center; padding: 5px;">A</td><td style="text-align: center; padding: 5px;">7 MW</td><td style="text-align: center; padding: 5px;">28 Cr</td><td style="text-align: center; padding: 5px;">30 Cr</td></tr> <tr> <td style="text-align: center; padding: 5px;">B</td><td style="text-align: center; padding: 5px;">8MW</td><td style="text-align: center; padding: 5px;">32 Cr</td><td style="text-align: center; padding: 5px;">29 Cr</td></tr> <tr> <td style="text-align: center; padding: 5px;">C</td><td style="text-align: center; padding: 5px;">5 MW</td><td style="text-align: center; padding: 5px;">20 Cr</td><td style="text-align: center; padding: 5px;">25 Cr</td></tr> <tr> <td style="text-align: center; padding: 5px;">NIT</td><td style="text-align: center; padding: 5px;">L1 selection</td><td style="text-align: center; padding: 5px;">80 Cr</td><td style="text-align: center; padding: 5px;">84 Cr</td></tr> </tbody> </table> <p>Here Party # 1 will be L1 and will be awarded Contract for all the three schemes , though Party#2 has submitted has submitted lower bid for Scheme B</p>	Project	Scheme	Bid Base price (Party # 1)	Bid Base price (Party # 2)	A	7 MW	28 Cr	30 Cr	B	8MW	32 Cr	29 Cr	C	5 MW	20 Cr	25 Cr	NIT	L1 selection	80 Cr	84 Cr
Project	Scheme	Bid Base price (Party # 1)	Bid Base price (Party # 2)																		
A	7 MW	28 Cr	30 Cr																		
B	8MW	32 Cr	29 Cr																		
C	5 MW	20 Cr	25 Cr																		
NIT	L1 selection	80 Cr	84 Cr																		

1.03 SECTION-IV: SPECIAL CONDITION OF CONTRACT(SCC)-applicable separately for individual Projects of 7 MW,8 MW and 5 MW SPV.

SN	Subject	Remarks
1.	Mobilisation Advance	20 % of the Contract Price (Supply & Erection Contract excluding cost of Mandatory Spares) with 110% BG
2.	CPBG	To be given with 15 days of LOA placement
3.	Performance Guarantee	Net Minimum Guaranteed Generation (NMGG) of solar energy at rate of 1.54 MU/MW annually with a degradation of 0.7% for any reason, from second year onwards
4.	Liquidated Damages	<p>Time Delay: 0.5% of the value of delayed job for each week of delay and part thereof subject to a maximum of 10% of the Project cost plus GST.</p> <p>Milestone Delay: 5% (Five Percent) of the Contract price.</p> <p>Total LD: Shall not exceed 10% of total Contract Price plus GST.</p>