



Name of Work: COMPATIBILITY STUDY OF NEGG PIPELINE NETWORK TO ASCERTAIN TECHNICAL ACCEPTABILITY FOR BLENDING GREEN HYDROGEN WITH NATURAL GAS AND SUGGESTION/RECOMMENDATION IN LINE WITH THE GOI's "HYDROGEN MISSION".

Tender No.: IGGL/GHY/C&P/PROJ/H-MISSION/06-22 date 02.06.2022 (E –TENDER NO: IGGL-100033)

MEMBERSPRESENT: (Meeting was held through Video conference system)

Indradhanush Gas Grid Limited:	Participating Agencies / Participant:
1) Mr.K. Talukdar, DGM (PE)	<u>M/s Engineer India Limited</u> i) Abhinav Mohapatra ii) Vidya Bhushan
2)Mr. A. K. Choudhury, DGM (C&P)	<u>M/s RINA</u> i) Swapnil Nayak
3) Mr. U. Das, CM (C&P)	<u>M/s SOPAN</u> i) Stegen Samuel
4) Smt. B. Gogoi, SE (PE)	<u>M/s MECON</u> i) Pakhi
5) Mr. S. Bhattacharyya, SM(C&P)	

GIST OF DISCUSSION:

- 1) Pre bid meeting was held through Video conference system and 04 (Four) nos. of participants attended the meeting.
- 2) Bidder query and IGGL reply are as follows for information to all concerned:

Query raised M/s Engineers India Limited(EIL)						
Sl. No.	Reference of Bidding Document				Bidder's Query	IGGL's Reply
	Section	Page No	Clause No	Subject		
1.	SECTION N-II	9/145	1.1	Bid Evaluation Criteria (Technical)	Client would appreciate that the type of study sought is related to an upcoming/sunrise sector and similar studies are in the process of being carried out. Bidder thus requests Client to consider only LoAs for similar studies as evidence for bidder's credentials. Alternately, bidder requests Client to consider Feasibility studies carried out for Hydrocarbon Pipelines / Refineries /Petrochemical projects as technical qualifying criteria for the subject study.	It is well understood that the job is related to a very new spectrum. Please refer to Point. No. (ii) under Note 1 in BEC for clarification. No deviation in BEC can be considered



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2.	SECTION N-II	10/145	1.2	Bid Evaluation Criteria (Financial-Working Capital)	Bidder has a positive net worth and sufficient cash balance to execute similar projects and would not require any external funding support for financing its operations. Therefore, considering the nature of services to be provided (i.e. Compatibility/feasibility study), bidder requests Client to waive off the criteria of having minimum working capital.	Tender condition prevails
3.	ITB	35/145	2.7	Power of Attorney	Bidder requests Client that only the copy of Power of Attorney in favour of the authorized person, duly signed by the Company secretary shall be submitted, in line with the practice followed by other oil PSUs. Kindly confirm.	Accepted
4.	SECTION N-II	42/145	12.5	SCHEDULE OF RATES / BID PRICES	The prices quoted by the bidder shall be based on the scope of work and the duration for execution of the project as defined in the bid document. In case the work gets extended beyond the stipulated schedule for reasons not attributable to consultant, Owner & consultant shall discuss and mutually agree upon the additional efforts and compensation. Owner to confirm.	Tender conditions prevail; No provision for extended Stay Compensation.
5.	GCC	-	-	-	Bidder understands that considering the nature of services to be provided (i.e. Consultancy Services), only the clauses of GCC relevant to the subject feasibility study scope would be applicable. Kindly confirm.	GSS-Services prevails
6.	Section -VII	138/145	4	Payment Terms	Bidder requests owner to kindly modify the clause as below: <ul style="list-style-type: none"> • 20% of Payment after kick-off meeting • 70% of Payment after submission of draft report • 10% of Payment after submission of final report after incorporating IGGL final comments. 	Refer Corrigendum no. 01
7.	Section -VII	138/145	6.0	Price Reduction Schedule	Client would appreciate that hydrogen blending in natural gas is an emerging area and for this study, data needs to be collected from various consumer points. This, in turn is likely to increase the interfacing among stakeholders and the time required to collect the data. Therefore, bidder requests client to waive off the imposition of PRS on the consultant for the subject study. Kindly	Tender Condition prevail



Query raised M/s Engineers India Limited(EIL)

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					confirm.	
8.	Section VI: SCC And SOW	136/145	2.0 (4)	Scope of work	Client is requested to elaborate on consultant's scope w.r.t. "Study of Natural Gas Flow Data".	Study required to know/ascertain the blending %age.
9.	Section VI: SCC and SOW	136/145	2 (b).	Scope of work	<p>Client is requested to clarify the number of consumer points for which Compatibility Study for Green Hydrogen Generation Plant and Hydrogen blending Plant is required. Bidder understands that under this part of scope of work, study report shall be prepared for following 5 points only:</p> <ul style="list-style-type: none"> i. Fertilizer/ Refinery – One Common Point ii. Power iii. City Gas Distribution iv. LPG Extraction Unit v. Others – One Common Point <p>Client is requested to confirm bidder's understanding.</p>	<p>Consumer points will be like:</p> <ul style="list-style-type: none"> i. Refinery ii. Power iii. City Gas Distribution iv. LPG Extraction Unit v. Fertilizer v. Others – One Common Point <p>Details of consumers with whom HOA/MoU executed / likely to be executed attached as Annexure</p>
10.	Section VI: SCC and Scope of Work	-	-	-	Bidder understands that compatibility study for Hydrogen blending is limited to pipeline section and no impact on end users/ consumers listed in section 1.6 needs to be carried out. Client is requested to confirm bidder's understanding.	Impact on end user / consumers to be studied.
11.	Section VI: SCC and Scope of Work	136/145	2.0(4)	SOW	<p>Bidder understands that Hydraulics of any pipeline section is excluded from Bidder's scope and compatibility study shall be limited to study of pipeline material compatibility for hydrogen blending.</p> <p>Client is requested to confirm bidder's understanding.</p>	Hydraulics is excluded. Refer to SOW for Detailed scope
12.	Section VI: SCC and Scope of Work	136/145	2.0	SOW	Bidder understands that no impact on compressors envisaged in pipeline section needs to be studied by the bidder and finally the compressors will be installed for selected composition after blending hydrogen. Client is requested to confirm bidder's understanding.	Compressor Station has already been finalized. Hence impact on compressors need to be studied
13.	Section VI: SCC and Scope of Work	136/145	2.5	SOW	Bidder understands that study regarding location of plant is limited to hydrogen blending aspects only (i.e.in entire network or at consumer end). It is assumed that renewable energy from grid shall be made available at those locations. Client is requested to confirm bidder's understanding.	<p>It is proposed to install electrolyzer for generation of green hydrogen.</p> <ul style="list-style-type: none"> 1. renewable energy will be used for electrolyzer 2. It will not be available from grid.



Query raised M/s Engineers India Limited(EIL)

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14.	Section VI: SCC and Scope of Work	137/145	2.10 (d)	Scope of Work	Bidder understands that instruments, electrical appliances and piping fittings in pipeline/ compressor station and other sections will be compatible for selected composition after blending hydrogen and thus no impact analysis on instruments is envisaged under this compatibility study. Client is requested to confirm bidder's understanding.	As the subject says 'Compatibility Study', it refers to a Detailed Feasibility Report Study. So, every possible related aspect/subject must be covered. Yes, impact analysis on instruments needs to be done.
15.	Section VI: SCC and Scope of Work	136/145	2.0(6)	Scope of work	The clause mentions the following: <i>"Power Supply Arrangement to the Entire Plant Methods of Green Power Purchase"</i> Client is requested to elaborate this point.	Power supply arrangement to the Entire Plant means details of power supply arrangement for hydrogen blending plant. Method of green power purchase is related to the green power sources for Electrolyser
16.	Section VI: SCC and Scope of Work	137/145	2.0 (15)	Scope of work	Client to clarify on Manpower and training required to be provided in compatibility study. Bidder understands that same shall be excluded from the subject study. Client is requested to confirm bidder's understanding.	By "Manpower and training", it refers to: Study on Requirement of manpower (quantity, qualification, trait, experience, specialization, etc.) to be deployed and training to be provided with respect to the specialized job.
17.	Section VI: SCC and Scope of Work	137/145	2.0 (17)	Scope of work	Bidder understands that since CAPEX data is vendor specific, Client will facilitate in arranging necessary information from electrolyser vendors and finalizing the CAPEX data to be considered for financial analysis. Client is requested to confirm bidder's understanding.	Under scope of Bidder
18.	Section VI: SCC and Scope of Work	137/145	2.0 (18)	Scope of work	Bidder understands that compatibility report shall include typical details on power source, Electrical infrastructure (such as transformer, switch gear), and single line diagram shall be excluded. Client is requested to confirm bidder's understanding.	As per tender
19.	Section VI: SCC and Scope of Work	137/145	2.0 (21)	Scope of work	Bidder understands that the term "FR" mentioned in the referred clause indicates Feasibility Study/Compatibility Study. Please confirm.	FR refers to Feasibility Report



Query raised M/s Engineers India Limited(EIL)						
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20.	Section VI: SCC and Scope of Work	137/145	2.0 (22)	Scope of work	<p>Bidder understands that as a part of study, bidder will ascertain maximum amount of hydrogen that can be blended in natural gas pipelines based on operating/ design conditions and material grade of pipeline. Based on this quantity, green hydrogen production plant and hydrogen blending plant capacity shall be determined.</p> <p>Client is requested to clarify on requirement of year wise blending data for 25 years.</p>	<p>Bidder's understanding is correct</p> <p>Required as per tender conditions</p>
21.	Section VI: SCC and Scope of Work	137/145	3	Scope of work	<p>Since hydrogen blending is an emerging field and for this study, data needs to be collected from various consumer points, thereby increasing the interfacing among stakeholders and the time required to collect the data, bidder requests Client to modify the completion period from 03 months to 06 months.</p>	<p>Tender conditions prevail; No modification in completion period can be considered.</p>

Query raised M/s RINA						
Sl. No	Section	Clause No.	Page No.	Description	Bidders queries	IGGL's Reply
1	SECTION -VI	SOW	136	(b) Compatibility Study for Green Hydrogen Generation Plant and Hydrogen blending Plant near the consumer point without transporting Green Hydrogen blending Natural Gas throughout NEGG pipeline section.	<p>Q. Could you please clarify what do you mean by 'consumer point'?</p> <p>1) Is this a point of interconnection between NEGG pipeline and a CGD network OR something else ?</p> <p>2) In case if this is point of interconnection between NEGG pipeline and a CGD network -</p> <p>(a) How many such consumer point to be considered in the Compatibility study.</p> <p>(b) Please provide the details of CGD networks (including length and other details) to be considered for the Compatibility Study.</p> <p>(c) Is for each such consumer point there will be separate Green Hydrogen Generation Plant to be considered.</p> <p><i>Note: In this case (S.No. 2 above) Compatibility study</i></p>	<p>Consumer points will be like:</p> <ul style="list-style-type: none"> i. Refinery ii. Power iii. City Gas Distribution iv. LPG Extraction Unit v. Fertilizer v. Others – One Common Point <p>Details of consumers with whom HOA/MoU executed / likely to be executed attached as Annexure-1</p>



					for Green Hydrogen blending with Natural Gas is to be done for each associated CGD network to estimate capacity of associated Green Hydrogen Generation Plant.	
2	SECTION -VI	SOW	136	(a) Compatibility Study for Green Hydrogen Generation Plant & Hydrogen Blending Plant near Compressor Station at Baihata (Guwahati) to transport Green Hydrogen blending Natural Gas throughout the NEGG pipeline section (1656 Km). (b) Compatibility Study for Green Hydrogen Generation Plant and Hydrogen blending Plant near the consumer point without transporting Green Hydrogen blending Natural Gas throughout NEGG pipeline section.	Q. Since these compatibility studies are to be done for - a) NEGG pipeline section (1656 km) and b) Consumer points request if you can issue/allow to have separate Reports, Time line and payment terms for 'a' & 'b'.	It is a single job and no separate timelines/ reports and payment terms will be considered in respect of a) and b) of the query.
3	SECTION -VI	3.0 Completion Period:	137	3 (Three) Months from the date of issue of FOA/LOA.	Q. Request to have a separate time line for compatibility study for 'NEGG pipeline section (1656 km)' and 'Consumer points'. Q. Request to revise the timeline in proportion to the number of Consumer Point to be considered in Compatibility Study.	It is a single job and no separate timelines will be considered. No revision in timeline can be considered.
4	SECTION -VI	4.0 Payment Terms:	138	(i) 30% Payment after submission of Draft Report. (ii) Balance 70% after submission of Final Report	Q. Request to have some advance (may be against Bank Guarantee) to have positive cash flow for the assignment for the Consultant. Q. Since major of the work generally completed at Draft Report stage, we request to revise the payment terms as follows-- (i) 10% advance (may be	Refer Corrigendum no. 01



					<p>against Bank Guarantee) (ii) 70% Payment after submission of Draft Report. (ii) Balance 20% after submission of Final Report</p> <p>Q. Request to have a seprate payment terms for compatibility stuy for 'NEGG pipeline section (1656 km)' and 'Consumer points'.</p>	
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Query raised M/s MECON						
Sl. No.	Reference of Bidding Document				Bidder's Query	IGGL's Reply
	Section	Page No	Clause No	Subject		
1.	II	13	1.7(i)	Technical Criteria of Bid Evaluation Criteria (BEC)	Being a PSU, both chartered engineer and notary public certification should not be required. Notary should be sufficient to establish the authenticity of the documents. If needed a further authentication by authorized signatory may be permitted.	Tender Conditions prevail
2.	III	59	38	Contract Performance Security	This is a compatibility study and as per industry standards does not require contract performance security. We request you to reconsider this clause.	Tender Conditions prevail
3.	VI	137	2.17	Financial Analysis: Capital Cost Estimate, Operating Cost Estimate, Cost of Generation of Hydrogen Etc.	Kindly confirm that the financial part of the report shall be limited to Capital Cost Estimate, Operating Cost Estimate, Cost of Generation of Hydrogen only.	Bidder's understanding is correct.
4.	VI	138	4	(i) 30% Payment after Submission of Draft Report. (ii) Balance 70% after submission of Final Report	<p>The percentage value for the above head happens to be way too disproportionate. It is requested that these may please be at least somewhat rationalized as major efforts have already been undertaken at the stage of the draft report.</p> <p>Following % payment is proposed: i.) 70% Payment after submission of Draft Report. ii.) Balance 30% after submission of Final Report</p>	Refer Corrigendum no. 01



5.	VI	138	6	Price Reduction Schedule	It is submitted that at the time of work execution, every effort would be put in to adhere to the indicated time lines. This in particular is a compatibility study and as per industry standards does not require price reduction schedule. We request you to reconsider this clause.	Tender Conditions prevail
6.	VII	140	1	Payment towards the cost for travelling / lodging etc. will be made at per actual.	Kindly confirm if man-day charges incurred while tour shall be reimbursed or not and the honorarium to be paid by client for that. Also, kindly indicate the tentative no. of tours which may be incurred during the course of project.	The cost of travelling and lodging will be paid; no Extra honorarium will be paid by client. Since it is a compatibility study/ feasibility study, no. of tours will be as per job requirement.
7.	VI	136	2.0	Compatibility Study	We understand that Compatibility study only implies the Hydrogen blending percentage to be determined / decided based on the available data / information	Scope is as per Tender
8.	VI	136	2.0 (b)	Consumer Point	Please confirm/clarify the number& type of Consumer points for which the present study is to be done.	Consumer points will be like: i. Refinery ii. Power iii. City Gas Distribution iv. LPG Extraction Unit v. Fertilizer v. Others – One Common Point Details of consumers with whom HOA/MoU executed / likely to be executed attached as Annexure-1
9.	VI	136	2.0 (6)	Power Supply	Please confirm the source of Green Power. Whether the renewable power will be purchased from the grid or a Captive renewable power plant is proposed for Hydrogen Generation plant.	It is proposed to install electrolyzer for generation of green hydrogen. - Renewable energy will be used for electrolyzer - It will not be available from grid.
10.	VI	137	3.0	Completion Period	Completion period shall be segregated for Draft Report and Final Report. Suggested Time schedule: - Draft Report to be submitted within 10 weeks from date of receipt of inputs from IGGL. - Final report to be submitted within 15 days of receipt of final comments on the Draft Report.	Tender Conditions prevail

- 3) All other terms & condition of the tender document remain unchanged.
- 4) All participating bidders are requested to submit/upload the seal & signed copy of this Pre-bid MOM along with un-priced bid as their acceptance

MoU and HoA Status

Annexure-1

SN	Organization	Location	Quantity of Gas for Transportation	Name of Agreement	Status
1	NRL	NRL, Numaligarh, Assam	2.4 MMSCMD	HoA	Executed
2	HOEC	Dirak Gas Field, Upper Assam	2.0 MMSCMD	MoU	Executed
3	AGCL	AGCL gas from Upper Assam, Silchar or anywhere in NE	2.0 MMSCMD	MoU	Executed
4	AGCL	Banaskhandi Gas, Cachar, Assam	0.1575 MMSCMD	HoA	Executed
5	TNGCL	Gas transportation in Tripura	0.20 MMSCMD	MoU	Executed
6	ONGC	Khubal Gas, Tripura	0.40 MMSCMD	MoU	In Progress
7	ONGC	Suaa, Hazarigaon, Janata Pathar Gas Sources in Golaghat Dist, Assam	0.028 MMSCMD	MoU	In Progress
8	OIL	Upper Assam Gas		MoU	In Progress
9	OIL	Tulamura Gas Field, Tripura		MoU	In Progress
10	Oilmax Energy Pvt. Ltd	Amguri Gas Field, Sivsagar, Assam		MoU	Not yet initiated
11	GAIL	Through BGPL		MoU	Not yet initiated
12	OTPC, Tripura	Palatana, Tripura	1.5 MMSCMD	HoA	Not yet initiated
13	NEEPCO	Monarchak, Tripura	0.5 MMSCMD	HoA	In Progress
14	PBGPL	Guwahati and Silcher		MoU	Not yet initiated