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**TENDER NOTICE NO.IPR/TN/PUR/2/16-17
DATED 18-04-2016**

**FOR DESIGN, FABRICATION/PROCUREMENT, SUPPLY,
INSTALLATION, COMMISSIONING AND SITE ACCEPTANCE
TESTS OF EXTERNAL CRYOGENIC DISTRIBUTION SYSTEM
(ECDS) FOR NBI**

CORRIGENDUM DATED 24/5/2016

This **corrigendum** is issued to provide certain clarifications on the technical document {i.e. Part-A(i)}. The details of clarification are kept on IPR website <http://www.ipr.res.in/documents/tenders.html>.

Due to above, the due date for submission of tender is extended upto **15th June, 2016.**

Eligible Vendors are requested to submit their tender **upto 1.00 p.m. on 15-06-2016**. Part-A (Technical bid along with tender fee of Rs.1,000/-, commercial terms and conditions and EMD in the form of Demand Draft for Rs.1,10,000/-) received upto 1.00 p.m. on 15-6-2016 will be opened on the same day at **3.30 p.m.** in the presence of attending tenderers. All other details mentioned in the Tender documents will remain unchanged.

Corrigendum to IPR tender Notice No.IPR/TN/PUR/2/16-17 dated 18/04/2016.

(A) Technical clarification

Sr. NO.	Reference of Tender Document				IPR Clarification
	PART/VOL.	Page No.	Clause No.	Subject	
1	PART-A(i)	12 of 49	6.1	PFD : ECDS (fig. 3)	There are two flow rates mentioned on each stream, one in red and the other in blue colour. Blue is nominal flow and red is for abnormal/design condition. This requirement of red also includes future provision with a circulating pump.
2	PART-A(i)	12 of 49	6.1	PFD : ECDS (fig. 3)	Nexans lines (Free issue material) are separate lines. They will be connected between NBI vacuum vessel (with isolator boxes) and valve box (please also see figures 10 and 11). This (connecting Nexans lines) is in the scope of the work.
3	PART-A(i)	12 of 49	6.1	PFD : ECDS (fig. 3)	Control of FCV3, FCV4 and FCV6: 1) FCV4 will be controlled by temperature sensors(FIM) on the Nexans lines at the valve box end. 1) FCV3 will be controlled by temperature sensors on the cryopumps. 2) FCV6 will be controlled by level sensor installed on the buffer (~150 l volume)inside NBI vessel. The buffer acts like a phase separator. Temperature sensors will also be installed on the buffer. Note: We do not envisage extra flow meters.
4	PART-A(i)	12 of 49	6.1	PFD : ECDS (fig. 3)	1) The system shall be designed in such a way that there are minimum heat in leaks (negligible vapor) so that control is achievable particularly the valves in the supply line. 2) Please note that initial cool down is manually controlled. The cooldown period is 4 hours.
5	PART-A(i)	12 of 49	6.1	PFD : ECDS (fig. 3)	The valve HV4 is for future application in case if we have to use a circulating pump (in this case HV5 is closed and HV4 is open).

Sr. NO.	Reference of Tender Document				IPR Clarification
	PART/VOL.	Page No.	Clause No.	Subject	
6	PART-A(i)	13 of 49	4.2	Tank filling of 2000 litre Dewar/tank	The filling and withdrawl are simultaneous in 2000 l Dewar/tank. External pressurisation system (page 21 of 49) is foreseen in case of problem with the supply/filling and still we have to manage few hours of operation with the liquid inside the 2000l tank.
7	PART-A(i)	12 of 49	6.1	PFD : ECDS (fig. 3)	The GN2 vapor vent will be disposed to atmosphere. Under normal operating circumstances, no liquid is foreseen in the vent line.
8	PART-A(i)	14, 21 of 49	4.3.2		PESO requirements: Based on the present design, 2000l vessel may be considered as a process vessel as per our understanding. Our requirement is 250-270 l/hr, Based on this 2000 litres is less than 16 hrs of operation. Bidder shall verify and confirm this.
9	PART-A(i)	16 of 49	4.3.9	Documentation: thermo mechanical design	The design shall ensure mechanical (pressure and static forces) and forces due to thermal expansion/contraction, thermal gradients, flexibility of whole line itself etc..
10	PART-A(i)	18 of 49	4.4.2	Acceptance tests	Load (cryopumps assembled inside) will be available for the performance testing. (In case of any dummy loads, the loads will be provided by IPR).
11	PART-A(i)	19 of 49	5.1	Valves	1) Please note that the detailed design is in the scope of contractor/bidder. The characteristic is given as Linear in the table of specifications. However, based on the detailed design the valve may be equal percentage. 2) Valves without bellow seal are acceptable
12	PART-A(i)	21 of 49	5.3	LN2 tank	Construction of tank: All stainless construction means inner vessel, outer vessel, process pipes, vacuum jacket extensions/connections.

(B) Commercial clarification

Sr. NO.	Reference of Tender Document				IPR Clarification
	PART/VOL.	Page No.	Clause No.	Subject	
1.	PART-A(ii)	10	1.22	Excise Duty	Excise Duty Exemption Certificate (EDEC) will be issued after successful completion of PDI wherever required at the time of despatch of material. The components for which EDEC needed to be clearly indicated in the offer.
2.	PART-A(ii)	10	1.23	Customs Duty	Customs Duty Exemption Certificate (CDEC) will be issued at the time of import of material. Vendor has to provide complete list of components in their offer with value for which CDEC is needed.