Tender No. 55(05)2016-PUR/T-112 dated 09/12/2016

Hiring/Leasing of Heliborne Multi/dual-moment/Multi-pulse TEM System on annual basis for high-resolution aquifer mapping.

Consequent upon Pre-Bid Conference held on 22/12/2016, the following documents are attached.

1. Minutes of Pre-Bid conference and Clarifiations issued during the Pre-Bid Conference.

2. Attendance sheet of the firms attended the Pre-Bid Conference.

- Controller of Stores & Purchase

Minutes of the Pre-Bid Conference held
on 22/12/2016 at CSIR-NGRI, Hyderabad
to give Clarifications for issues raised by firms against

Tender No. 55(05)2016-PUR/T-112 dated 09/12/2016

Hiring/Leasing of Heliborne Multi/dual-moment/Multi-pulse TEM System
on annual basis for high-resolution aquifer mapping.

The following attended the conference on 22/12/2016 at 10.30 a.m.

From Technical & Purchase Committee (Services)

Dr. N.Purnachandra Rao, Chief Scientist	- Chairman
Dr. G.Ashok Babu, Sr. Principal Scientist	- Member
Sri. S.Raju, Principal Scientist	- Member
Sri. M. Tirupathi,	- Member
Dr. Shakeel Ahmed, Chief Scientist	- I/O - Member
Dr. Subash Chandra, Principal Scientist	- Alternative I/O - Member
Mrs. M.Vijayakumari, COFA	- Member
Sri. S.Gnanaprakasam, COSP	- Member – Convener

From Firm:

M/s. CGG, New Delhi represented by Mr. Amit Sood, Business Development Manager.

The TPC has given detailed replies/clarifications after going through issues raised by M/s. CGG, New Delhi vdie their email dated 21/12/2016.

The replies / clarifications are also concurred by the external expert members. vide e-mails dated 25-12-16 and 27-12-16.

27/12/16
(Dr. Subash Chandra)

27/12/16
(Dr. Shakeel Ahmed)

27/12/2016
(Dr. G.Ashok Babu)

27/12/16
(Sri. S.Raju)

27/12/2016
(M. Tirupathi)

27/12/16
(M.Vijyakumari)

27/12/16
(S.Gnanaprakasam)

(Dr. N.Purnachandra Rao)
Chairman

Clarifications for Hiring/Leasing of Heliborne Multi/dual-moment/Multi-pulse TEM System on annual basis for high-resolution aquifer mapping

Sl No	M/s. CGG's issues.	NGRI's response
1	**Ref: SCC 3.4 - This requirement asks for proof of experience >50,000 lkm of surveys with this particular system specifically for groundwater investigations.** We object to this requirement which is very onerous and if strictly adhered to will result in only 1 company having sufficient experience to participate in the tender. CGG have significantly more than 50,000 lkm of AEM experience for groundwater, using both the system meeting the tender specifications (which we intend to bid with) as well as several other helicopter and fixed wing AEM systems also well suited to aquifer mapping. We also have extensive experience in successful airborne EM surveys in India. **We request confirmation that our tender will be considered without prejudice in regards to specific system experience.**	*The above experience has been sought with the purpose to take on lease a heliborne multi/dual moment or multi pulse TEM survey system (hereafter referred as system) with well proven technology that has been successfully applied for groundwater related studies in various hydrogeological conditions.* *The number 50,000 line km is a as per initial plan and now it stands reduced to 10000 LKM considering the project requirements and to give scope for wider competition.*
2	**Ref: SCC Technical Specifications** We note that the technical specifications are very specifically written for one of our competitors systems, rather than specify TEM systems that are suitable for aquifer mapping, but which may have alternate specifications. If CSIR-NGRI assess the tender strictly on these specifications, they will reject a number of systems that are very capable and very successful at aquifer mapping. Some of the specifications are not logical or are contradictory. For instance, 1.2 calls for a small Tx loop area for "lateral resolution", however Tx loop area plays only a small factor in lateral resolution, with survey speed, data stacking and alternating between high and low moments have a far greater impact on lateral resolution. 1.2 also requires that the system is capable of flying at speeds up to 150km/hr. Flying at this speed will cause major degradation of lateral resolution. CGG have developed and operate several alternate TEM systems that have proven very successful for aquifer mapping. These systems they do not fully meet <u>all</u> of the Technical Specifications required by the SCC, however regardless of this they are very successful at aquifer mapping applications. We propose providing a tender response based on our successful TEM systems, with demonstrative evidence of their suitability for the stated application of aquifer mapping. **We request confirmation that our tender with demonstration of suitability of our proposed systems for the stated application of aquifer mapping, will be considered fairly and without prejudice in regards to specific system specifications.**	***Modified specs:*** ***1) Loop size: < 450 sq.m*** ***2) Flying speed range : 80±20 kmph (as per the user requirement)*** *<u>Justification</u>* *The above specifications are designed to meet specific scientific objectives. Our prime and immediate objective is to map paleo channels as well as to do river bed characterization besides the aquifer mapping. The paleo channels could be narrow in width, which we encountered in a few surveys conducted earlier. A smaller Tx loop will obviously have smaller foot print, or in other words higher lateral resolution. Our immediate concern is to acquire heliborne TEM data at flying speed in the range of 60-80 km/h.*
3	**Ref: Schedule of Rates Table** Can you please confirm that the Rates include Annual Rental Charges, plus the additional charges as detailed in the Schedule of Rates table?	*Yes, as specified in tender document*
4	**Ref: General Condition of Contract Clause 4.** Can you please explain why Clause 4 is not applicable? Is	*Not applicable, since mileage is applicable for Helicopter.*

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	that because the km to be flown is variable and unknown at this stage?	
5	**Ref: SCC 3.2 Insurance** From the tender document, and as per a standard lease, we understand that CSIR-NGRI will be in control of the surveys, with CGG just providing support. If this is correct then CSIR-NGRI and their helicopter supplier would need to insure the systems. If CGG are required to provide insurance, CGG and the helicopter provider would need to be in control of the surveys. **Can you please clarify whether CSIR-NGRI or CGG will be in control of the HTEM system under this lease?**	*Insurance has to be done by the system supplier only.*
6	**Ref SCC 3.3 Service and Maintenance** We note the requirement that service and maintenance is required in the earliest time and limited to a maximum of 1 week by penalty. Although unlikely, some system elements may take longer to repair in the event of a breakdown. CGG can provide a tender response, which includes a full backup system, to ensure this 1 week maximum repair time is met 100% of the time. However this requirement will come at a higher annual charge. Alternatively, if CSIR-NGRI can tolerate a longer repair turnaround on very unlikely breakdown event, then CGG can provide a more limited supply of replacement elements, then a lower annual charge will be possible. **Can you please confirm whether the 1 week maximum repair time is mandatory, or whether a longer repair time can be proposed?**	*Service and maintenance has to be ensured in 5 working days, a mandatory condition, as per tender conditions.*
7	**Ref: SCC 3.4 Experience** You note that data is required from very shallow ~5m to deeper horizons. Yet no indication of the maximum depth of exploration is provided. **Can you please advise the approximate maximum depth of penetration desired or required by CSIR-NGRI aquifer mapping applications?**	*It will vary with the hydrogeological setting of the survey area. In general, the maximum exploration depth will vary from about 200 m to 500 m.*

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CSIR - NATIONAL GEOPHYSICAL RESEARCH INSTITUTE
(Council of Scientific & Industrial Research)
UPPAL ROAD, HYDERABAD-500 007,(AP), INDIA

ATTENDENCE SHEET FOR THE PRE-BID MEETING

Tender No. 55(5)2016-Pur/T-112 – dated 09/12/2016

Hiring/Leasing of Heliborne Multi/dual-moment/Multi-pulse TEM System on annual basis for high-resolution aquifer mapping.

The following Bidders have attended for the Pre-bid meeting held on 22/12/2016 – 10.30 a.m. at Lecture Hall, CSIR-NGRI, Uppal Road, Hyderabad.

Sl. No.	Name & Designation	Company Name & Address	Contact Telephone No. with e-mail
1	AMIT SOOD MANAGER	CGG	M- 8585999006 E- AMIT.SOOD@CGG.COM