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संख्या/No. SAG / 4600 / TCID / CARS / 35

भारत सरकार / रक्षा मंत्रालय,
Government of India / Ministry of Defence,
रक्षा अनुसंधान तथा विकास संगठन,
Defence Res & Dev Organisation, (DRDO)
वैज्ञानिक विश्लेषण समूह,
SCIENTIFIC ANALYSIS GROUP,
मेटकाल्फ भवन, दिल्ली - 110 054
Metcalf House, Delhi - 110 054

Date : 27 July, 2016

To

The Director,
Harish Chandra Research Institute
Chatnag Road, Jhansi,
Allahabad - 210 019

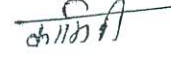
Subject: Sanction of CARS titled "Development of Modules and Tools for Solving Integer Factorization and Discrete Log Problem using Number Field Sieve" under project SANKHYA

As per financial sanction from DG R&D(MED&CoS) vide letter no. DG(MED&CoS)/Admin/P-CARS/SAG/003/16-17, dated 17 June 2016, Amendment letter no. DG(MED&CoS)/Admin/P-CARS/SAG/003/16-17, dated 19 July 2016 & Amendment letter no. DG(MED&CoS)/Admin/P-CARS/SAG/003/16-17, dated 25 July 2016, I am directed to convey the award of CARS "Development of Modules and Tools for Solving Integer Factorization and Discrete Log Problem using Number Field Sieve" to Harish Chandra Research Institute Allahabad, with following details:

Title : Development of Modules and Tools for Solving Integer Factorization and Discrete Log Problem using Number Field Sieve
Total Cost : Rs. 28.812 Lakhs (Rupees Twenty Eight Lakhs Eighty One Thousand and Two Hundred only)
PDC : Thirteen Months

- The start date of the project will be the date of entering into contract between SAG & Harish Chandra Research Institute Allahabad. The specific area of work and terms and conditions would remain as agreed to in the CARS documents.
- This issues with the concurrence of IFA (R&D) vide their U.O No 2000 / 0261, dated 14 June 2016.

4. The financial sanction code for award of this CARS is DG (MED & CoS) / SAG / PROC(PRR) / 16-17 / 0006.
5. The expenditure is debitable to Major Head 2080 and Minor Head 110.



(कामिनी मल्होत्रा)

वैज्ञानिक 'एफ'

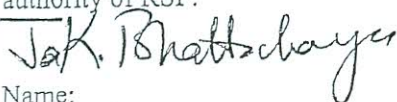
टी.एस.ओ & प्रमुख टी.सी.आई.डी

कृते निदेशक, एस.ए.जी

Ink signed copy to :

- i. The Director PM (CoS), O/o DGR&D(MED&CoS), DRDO HQrs, New Delhi -110011
- ii. DEDA (R&D), Metcalfe House, Delhi -110054
- iii. Mr Kalyan Chakraborty, PI, c/o HRI Allahabad
- iv. Dr S K Pal, Scientist 'G' --- Project Director SANKHYA
- v. TCID

Summary Offer of Provision of Research Services

1. Title of DRDO's Research Service Qualitative Requirement (RSQR) Development of Modules and Tools for solving Integer Factorization and Discrete Log Problems using Number Field Sieve			Offer Number:		For DRDO use
			Date received: Revised on:		
2. RSQR Document Ref. No.:	Date of issue		Issuing DRDO Lab/Estt/Project:		For DRDO use
SAG/4600/TCID/CARS	YY	MM	DD	SAG	
3. Name of Research Service Provider (RSP) making this offer: Harish Chandra Research Institute			4. RSP's Ref. No.		For DRDO use
3.(a) RSP's address for correspondence: Harish Chandra Research Institute Chhatnag Road, Jhansi Allahabad Pin -211019 Uttar Pradesh			5. (a) Key personnel of RSP to be deployed: (i) Kalyan Chakraborty (P.I) (ii) R. Thangadurai (Co P.I) 5. (b) RSP's sub-contractors/consultants: None a) Name: Institute/Company: b) Name: Institute/Company:		
6. Principal technical features of offer as related to RSQR (Detailed in attachment A) Attachment A					
7. DRDO-owned equipment that RSP requires to be positioned by DRDO (Detailed , with estimated costs)					
8. Estimated time to complete provision of research services and submit Final Report.				Months: 13	
9.1 Estimated expenditure (as elaborated on reverse) on:				Rs. In Lakhs	
a) Personnel:				21,64,000	
b) Equipment: computers, laptops, printers				03,00,000	
c) Others:				04,17,200	
				Total: 28,81,200	
9.2 Required schedule of payments (Rs. in lakhs)			Date	Payment	
a) Initial advance			1 st Month	10,00,000	
b) on Completion of Milestone I to RSQR			End of 6 th months	10,00,000	
c) on Completion of Milestone II to RSQR			End of 12 th months	07,60,000	
d) On submission of Final Report			End of 13 th months	01,21,200	
			Total: 28,81,200		
10. References to R&D work being performed by RSP for Armed Services/DRDO/other S&T (including foreign) agencies:			11. Offer as above valid till (date):		
			12. Signature of Competent authority of RSP: 		
			Name: Designation: Director		

Instructions to fill this sheet are on the reverse. Please read them.



Kalyan Chakraborty

Harish Chandra Research Institute
Chhatnag Road, Jhansi
Allahabad-211019

Send filled-in form to: **The Director**
L/E/P issuing RSQR

Guidance to fill form:

- Item 5(a): In Offers whose expected time of completion is more than 18 months, RSP shall identify at least two key personnel who will engage in the work.
- Item 5(b): Consultants who are non-Indian citizens (whether or not of Indian origin) will require prior approval of DRDO.
- Item 6: Highlight investigation methodology and/or experimental design intended to be followed.
- Item 7: Identify equipment. Detail in Attachment B, including proposed country of origin.
- Item 9.I(a): Indicate below categories, and numbers in each category, of personnel proposed to be engaged and their monthly total emoluments.

Attachment-1

- Item 9. I (b): List below all equipment required. Prior approval or L/E/P will be required to order any equipment for which the potential supplier asks for an end-use or end-user certificate.

Attachment-1

- Item 9.1(c): Enter total of expected other expenses listed below:

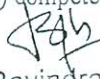
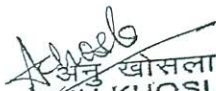
Expected other expenses on:	Rs. In Lakhs
Sub-contracts (Details of sub-contracts must be provided in Attachment A)	0
Operation and maintenance of equipment required for provision of the Research Service	0
Expendables	0
Travel	1,20,000
Contingencies	1,80,000
Visiting Faculty or Research Consultant	0
Technical support services procured from outside the RSP	0
Fees for use of intellectual assets (including royalties for legally protected IPR)	0
Overheads	1,17,200
	4,17,200

Kalyan Kumar



Contract for Acquisition of Research Services (CARS)

By signature of authority identified at (11) below, DRDO hereby contracts on the Research Service Provider identified at (3), the provision of the Research Services described at (6), within the time stated at (8), for payments at (9.2), and subject to other conditions overleaf, as follows:

1. Short title of Research Service to be provided: IFP and DLP using Number Field Sieves in response to:			Contract Number: SAG/CARS/2016/02		
			Date: 27 July, 2016		
2. RSQR Document Ref. No.: SAG/4600/TCID/CARS	Date of issue		Issuing DRDO Lab/Estt/Project: SAG	Dates of CARS Amendments:	
	YY	MM			
	15	08	11		
3. Name of Research Service Provider (RSP): Harish-Chandra Research Institute			4. RSP's offer Ref.: Date:		
(a) This contract will require a formal amendment if the following key professionals are not-available to RSP:					
(b) RSP is authorized to engage these professionals as research consultants (names, institute/companies): (i) Dr. Kalyan Chakraborty (P. I) (ii) Dr. R. Thangadurai (Co P. I)					
6. Principal technical features of Research Service to be provided (Detailed in Attachment A) Attachment-A					
7. DRDO will make available the following DRDO-owned equipment to RSP (Detailed in attachment):					
8. The technical performance of this contract shall be completed when RSP submits Final Report before (date):				13 months	
9.1 Expenditure on items below shall not exceed sums shown against each				Rs. In Lakhs	
a) Personnel:				21,64,000	
b) Equipment:				03,00,000	
c) Others:				04,17,200	
				Total: 28,81,200	
9.2 Schedule of payments (Rs. in lakhs)			Date		Payment*
a) Initial advance			1 st Months		10,00,000
b) at Performance Milestone I			End of 6 months		10,00,000
c) at Performance Milestone II			End of 12 months		07,60,000
c) On submission of Final Report (Refer also entry 8 above)			End of 13 months		01,21,200
* Payments will be made within 45 days of receipt by L/E/P of Contingent Bill			Total:		28,81,200
10. DRDO will deem this contract, including amendments thereto, to have been consummated when signed below by the authority of the academic institution (e.g. Registrar) competent to enter into this contract:  (Ravindra Singh) Registrar			11. Signature of L/E/P contract administrator:  Name: ANU KHOSLA Designation: निदेशक Address: Director वैज्ञानिक विश्लेषण समूह Scientific Analysis Group, रक्षा विभाग, डी आर डी ओ Ministry of Defence, DRDO मेटकॉफ भवन परिसर, दिल्ली-110054 Metcalfe House Complex, Delhi-110054		
Name: Harish-Chandra Research Institute Designation: (Dept. Atomic Energy, Gol.) Chh...			Telephone: Email:		

Conditions of this contract appear on reverse. Please read them.



- I. Specific Conditions of this contract: The following conditions apply [L/E/P to stipulate] in addition to General Conditions listed at II below:
1. Technical performance: The satisfactory execution of the technical features of this contract shall be established against Performance Milestones as follows:
Attachment-2
 2. Delivery schedules: The interim reports and/or other outcome(s) of this contract shall be delivered as follows:
Attachment-2
 3. Other specific conditions:

II. General Conditions of this CARS

1. Equipment:

1.1 All equipment of a capital nature purchased, by the Research Service Provider (RSP), to execute this contract are the property of DRDO (L/E/P). These shall be returned to L/E/P within 03 months of expiry of this contract, unless L/E/P specifies otherwise separately.

NOTE: Should there be a difference of opinion between the RSP and L/E/P on whether or not a piece of equipment is of 'capital nature', the decision of L/E/P shall be final and binding on the RSP.

1.2 Equipment included in the Summary Offer of Research Services [at Entry 9.1(b)] shall be procured by the RSP.

1.3 The RSP shall be responsible for the proper maintenance of the equipment and shall not alienate them, or use them without the prior permission of L/E/P for purposes other than those specified in this contract.

2. Financial provisions: By entering into this contract, the RSP agrees to make available to the L/E/P s, or to any person or bodies designated by it, if requested by the L/E/P s, all financial documentation and records on supplies and services purchased or acquired by the RSP for executing the contract.

2.1 Advances, work-in progress and schedule of payments:

(a) Advances or milestone payments are interim payments, which shall be deducted from the total sums due to the RSP.

(b) The L/E/P shall make payments for executing this contract on demands made through 'Contingent Bills' after certification by the pertinent financial authority of the RSP that the monies already released have been utilised for the purposes for which they were provided.

(c) Statements on expenditures incurred on items at 9.1 overleaf as certified by the internal auditors of the RSP shall be submitted within 30 days of crossing of each Performance Milestone identified in the schedule of payments at 9.2 overleaf.

(d) Except with the specific written pre-agreement of the L/E/P, the RSP shall not use for any purposes other than those specified in this contract, any material or services for which advances or milestone payments have been made.

2.2 Financial documentation and records:

a) For work whose estimated time for completion is six months or less, the RSP shall submit only those reports as relate to the purchase of equipment by the RSP, within thirty (30) days of such purchase.

b) For contracts whose estimated time for completion is more than six months, the RSP shall provide the L/E/P, not later than thirty (30) days after the end of each half-year, with a half-yearly financial report showing the actual expenditure incurred, against each of the entries at 'item 9.1' overleaf, for the execution of the contract up to the end of the previous half-year.

c) The L/E/P, or other authority specified by DRDO, may inspect all books, bills, vouchers and other financial records at any time until the final settlement of accounts. The RSP shall supply the L/E/P with such documents as are necessary for final settlement of claims, without explicit request by the L/E/P, within three (3) months after the date of submission of the Final Report.

d) The documents supporting claims shall be preserved by the RSP until one year after the contract accounts are finally settled.

3. Disclosure and use of information by the RSP: The RSP will ensure that the documents supplied by the L/E/P are not disclosed to any person other than a person authorised by the L/E/P. Any pattern, sample or information in documentary or other physical form remains the property of the L/E/P throughout the period of the contract and shall be returned to the L/E/P after execution of the contract, unless their disposal is otherwise provided for in the contract.

4. Delivery schedule:

4.1 The interim outcomes of the contract shall be delivered at the time or times and in the manner specified in I above.

4.2 The RSP shall inform the L/E/P promptly of any occurrence that is likely to cause delay in delivery of above contracted outcomes. The L/E/P shall determine, in the light of circumstances reported, the extent of change(s) required in the delivery schedule of the contract.

Note: The above covers only unexpected technical difficulties, gross delays in deliveries by suppliers of purchased equipment or consumables, illness or other justifiable cause of unavailability of research personnel and similar unforeseen circumstances.

4.3 An extension of the time limit for execution of the contract, or a postponement of delivery of outcomes shall require the explicit approval of the L/E/P, which approval shall be contractually valid only when this contract is formally amended by the L/E/P, as recorded on top right-hand corner overleaf.

5. Short-closure of contract: The contract may be short-closed at any time during the currency of its execution if the L/E/P feels that no useful purpose will be served by continuing its implementation. The short closure will be deemed to be effective from the day the short closure order is received by the RSP. Subsequent to this short-closure the RSP will submit a technical report on the work done till short-closure. The monies left unspent on the date of receipt of short-closure order by the RSP shall be returned to L/E/P. All equipment/stores acquired out of contract monies shall also be returned to L/E/P.

6. Reports: Reports giving details of the progress of the work shall be sent to the L/E/P at intervals as specified in I above. On completion of the contract, the RSP will submit a final report (Contractor Report). All reports shall be in a format conforming to Indian Standard IS:1064-1980, bound with Bibliographic Description sheet conforming to IS: 9400-1980.

7. Ownership of Intellectual Property (IP):

7.1 The ownership of intellectual property, whether or not legally protected, generated by contract research performed under this contract shall vest in DRDO. However, the RSP shall receive, upon demand by it, a royalty-free license from DRDO to use these intellectual properties for its own purposes, which purposes specifically exclude sale or licensing to third parties.

7.2 Notwithstanding the above, all documents and information detailing the technical performance of this contract (including pertinent laboratory notebooks, sketches, photographs, video tapes of experiments, electronic data acquisition records and other similar) shall be the property of DRDO, whether or not in the physical possession of DRDO.

8. Publications: Interim technical results and the outcome of the contract, intellectual or physical, are the property of DRDO. If the investigator intends publishing the technical outcome, he shall send a written request to L/E/P for permission to publish along with a copy of the manuscript. Within 60 (sixty) days of the receipt of such request, the L/E/P will inform the investigator(s) about its decision. If no communication is received from the L/E/P by the investigator/RSP within this period of 60 (sixty) days, the investigator/RSP shall be free to publish the material as proposed by him.

9. Publicity relating to this contract: The existence of the contract or the status of their execution shall not be publicised by the RSP in the media or in its Periodic/Annual Report except with the written consent of L/E/P. The latter shall specify the text relating to this contract that may be made public.

10. Communications: All communications affecting the performance of the contract, or its terms and conditions, shall be contractually valid only when confirmed by formal amendments to this contract made by the original signatories to the contract, and recorded in the box at the top right-hand corner overleaf.

11. Compliance with law: Notwithstanding anything contained in this contract, the RSP shall be wholly responsible for complying with all laws in force in India.

12. Settlement of disputes: All disputes relating to this contract shall be settled mutually between the Vice-Chancellor/Director of the academic institution and Director of L/E/P placing this contract. Any remaining unresolved disputes shall be referred to final binding settlement by authorities mutually decided by the Secretary, Defence Research & Development, Ministry of Defence; and Secretary, HRD, Government of India, unless otherwise provided for in Specific Conditions at I (4) above.

Kalyan...