



Government of India
Bhabha Atomic Research Centre
Materials Group
Materials Science Division

Sh. Uttam Jain,
Materials Science Division

Ref:PMS/MSD/UJ/2018/89996
2018

Date: 04th May,

To,
As per annexure 2

Sub: Invitation quotation for Production and supply of Lead-16 atom % eutectic alloy (Quantity: 500 Kg) as per the details given in annexure 1 without any free issue materials

Due date: 07-06-2018, Time: 17:00 hrs.

You are requested to submit your quotation in sealed envelope for the above subject matter as per details given below. Quotation shall be complete in all respects with regard to price, validity of the offer, etc. and must reach the under signed by 07-06-2018 before 17:00hrs.

Brief description of the job

Production and supply of Lead-16 atom % eutectic alloy (Quantity: 500 Kg) as per the details given in annexure 1 without any free issue materials

Note to Bidders:

- 1.** BARC has developed a technology to produce Pb-Li alloy in a capacity of 15 kg per batch. The prospective bidders can utilize BARC's technology by signing non disclosure agreement and /or Memorandum of understanding (MoU).
- 2.** It is to be noted that MoU shall be signed with the vendor who have the technical and infrastructural capability of utilizing BARC technology for the bulk production of this alloy. Before signing MoU, BARC will constitute a team which shall evaluate the technical capabilities of the vendors, check their existing infrastructure and their current product lines and throughput.
- 3.** The prospective bidders are encouraged to have a discussion on the technology before **May 22, 2018** and understand the complete scope for production. Please contact the undersigned at **least two working days** in advance for arranging necessary entry permits.

Sh. Uttam Jain
MSD
Mod Labs
BARC Mumbai 400085

Instructions

1. The quotations are to be in printed letter head/ quotation format which should consist of GST Registration Number, PAN number of the firm, Service Tax Registration Number. Quotations received without signature, over-writing, summation errors etc. will be construed as invalid and thus rejected. The quotation should be sent in a sealed envelope by speed/registered post only. The envelope shall *clearly be superscribed* with the reference no., due date and with the words “**Quotation: not to be opened**”. It should reach the undersigned within the due date given above. The quotation reached after the due date will not be considered.
2. The contractor shall arrange all equipment and personnel required for the successful completion of the work and the department will not release any free-issue material except electricity and water.
3. Time of completion of job: 180 Days.
4. The offer shall be valid for a period of thirty days and in case of placement of the work order, shall remain firm till the completion of the work.
5. Quotation is to be printed in letter head/quotation format. Computer generated forms are to be construed as invalid and rejected.
6. The price quoted should include GST. Any other taxes, if applicable, should be indicated separately.
7. The prospective bidders who are interested in BARC technology are encouraged to have a discussion on the technology before **May 22, 2018** and understand the complete scope for production. Pl contact the undersigned (uttamj@barc.gov.in/ 022-25592908) at least two working days in advance for arranging necessary entry permits.
8. The installation work will have to be done in our laboratory inside BARC premises at Trombay, Mumbai.
9. Payment would directly be made by Accounts Division of BARC on satisfactory completion certificate from the user.

1. Confidentiality Clause.

- A) No party shall disclose any information to any third party concerning the matters under this contract. In particular, any information identified as “proprietary” in nature by the disclosing party shall be kept strictly confidential by the receiving party and shall not be disclosed to any third party without the prior written consent of the original disclosing party. This clause shall apply to the subcontractors, consultants, advisors, or the employees engaged by a party with equal force.
- B) “**Restricted information**” categories under section 18 of the Atomic Energy Act, 1962 and “**official secrets**” under section 5 of the Official secret Act, 1923:
Any contravention of the above mentioned provisions by any contractor, subcontractor, consultant, adviser or the employees of a contractor will invite penal consequences under the aforesaid legislation.
- C) **Prohibition against use of BARC’s name without permission of publicity purpose:**
The contractor, subcontractor, consultant, adviser or the employees of a contractor shall not use the BARC’s name for any publicity purpose through any public media like press, T.V., radio or internet without the prior written approval of BARC.

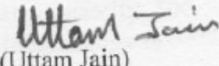
Security Rules and Regulations:

Rules and regulations of BARC Security have to be strictly followed by contractor. Contractor has to get photo passes issued from security for which Police Verification Certificate is a must.

Police Verification Certificate is valid for only 6 months and need to be renewed after every 6 months. All persons working in BARC premises should have a Police Verification Certificate.

Thanking you

Yours sincerely,

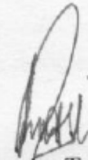


(Uttam Jain)

SO/E, PMS, MSD

On behalf of the President of India

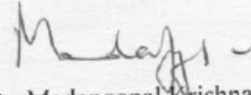
Through



(Raghendra Tewari)

SO/H & Head, PMS

Approved



(Dr. Madangopal Krishnan)

OS & Associate Director, Materials Group,

Dr. Madangopal Krishnan

Associate Director, Materials Group &

Head, Materials Science Division

Government of India

Bhabha Atomic Research Centre

Mumbai - 400 085.

Annexure 1

Production and supply of Lead-16 atom % eutectic alloy (*Quantity: 500 Kg*)

Technical reasons for the work order

The work order is to Production and supply of Lead-16 atom % eutectic alloy (Quantity: 500 Kg). The alloy is difficult to prepare by conventional melting route. Special technology is required to produce this alloy.

SPECIFICATIONS:

Specifications:

1. Final Composition desired: Lead-16 atom% lithium, Maximum permissible deviation in the % of Li in the indented Pb-Li alloy should be ± 1 atom %.
2. Maximum Casted brick size: 15 Kg
3. The Pb-Li alloy should be homogenous and eutectic composition. The maximum possible deviation from homogeneity (± 1 atom %.)
4. Allowable Impurities in Pb-16 atom% Li eutectic

Impurity	Maximum allowable concentration (wt%)	Impurity	Maximum allowable concentration (wt%)
Ag	≤ 0.002	Ni	≤ 0.01
Cu	≤ 0.002	V	≤ 0.01
Nb	≤ 0.002	Si	≤ 0.02
Pd	≤ 0.002	Al	≤ 0.02
Zn	≤ 0.002	Bi	≤ 0.03
Fe	≤ 0.01	Sn	≤ 0.03
Cr	≤ 0.01	W	≤ 0.03
Mn	≤ 0.01	As	≤ 0.002
Mo	≤ 0.01	Se	≤ 0.002
S	≤ 0.002	Cd	≤ 0.002
Te	≤ 0.002	Au	≤ 0.002

7. Packing: Vacuum packed product for long duration storage

8. Acceptance criteria:

1. The homogeneity of the material should be verified by the supplier through composition analysis of samples taken from various locations (minimum 8 locations) of a single Pb-Li eutectic ingot. The same procedure should be carried out for at least 5 ingots.
2. Final acceptance for the Pb-Li eutectic alloy will be given only after chemical analysis of the same at BARC after delivery.