Government of India
Bhabha Atomic Research Centre
POWDER METALLURGY DIVISION

Ref.: PMD/FAB/2019/13160

September 11, 2019

To

Limited Tender

Sub: Supply, demonstration and training of Self-Contained open circuit compressed air breathing apparatus (SCBA) sets along with spare cylinders as per IS10245 (Part II 1994) standards.

For & On behalf of the President of India, quotations are invited by the undersigned for above said work to be carried out at Powder Metallurgy Division, Vashi Complex, Navi Mumbai-400 703. The scope of work is detailed below.

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<tbody>
<tr>
<td>Supply, demonstration and training of Self-Contained open circuit compressed air breathing apparatus (SCBA) Sets along with spare cylinders conforming to IS10245 (Part II 1994) standards as per attached Annexure-1</td>
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The quotation in sealed cover should super scribe nature of work and should be addressed to following person and should reach him on or before the date and time mentioned. The quotation should be sent only by speed post or registered post of Indian Postal Department.

M P. Wasnik
Scientific Officer (D)
SMMS, PMD, BARC, Vashi Complex, Sector 20
Navi Mumbai 400 703

On or before 04.10.2019 at 14.00hrs

Instructions to the suppliers:

- The supplier should write in words as well as figures, the rate(s) quoted by him. All corrections must be attested by the dated initials of the tenderer.

- The supplier may note that in case the work is awarded to him, he has to produce police verification certificate for the employees to be deputed for the demonstration and training of SCBA Sets inside the BARC/BRIT complex, Navi Mumbai.

- Income-Tax and surcharge on income-tax as applicable shall be deducted from the bill. The payment for the work done shall be paid by our Accounts Division only on satisfactory completion of the work within one month.

Cont............
• The supplier must provide PAN No. and GST No. of firm/company along with offer.

• The time allowed for completion of the job is 60 working days. The same shall be reckoned from the date of issue of the work order.

• The acceptance of the tender rests upon the undersigned with a right to reject the tender without assigning any reason.

Thanking you.

Yours faithfully

D. S. Kurkure
Section Head, SMMS, PMD

( M.P. Wasnik )
Scientific Officer (D)
Tel : 2788 7175 / 7176

[Signature]

[Address]

[Date]
# Annexure - 1

Supply, demonstration and training of Self-Contained open circuit compressed air breathing apparatus (SCBA) sets along with spare cylinders as per IS10245 (Part II 1994) standards.

**Quantity**
- 4 Nos. Complete sets (9 Ltr. X 300 Bar for 60 Minutes Use)
- 2 Nos. 9 Ltr. x 300 Bar for 60 Minutes Use ultra-carbon composite cylinder

**Scope of work:**

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<tr>
<th>1. General</th>
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<tr>
<td>The set shall be Self-contained open circuit compressed air breathing apparatus (SCBA) with light weight ultra-carbon composite cylinder, Back Plate and mechanical pressure gauge Confirming to IS10245 (Part II): 1994</td>
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<td>With main components 1. Plug in type full face mask IS approved</td>
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<td>2. Lung demand valve</td>
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<tr>
<td>3. Pressure reducer</td>
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<tr>
<td>4. High pressure gauge with whistle unit</td>
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<tr>
<td>5. Back plate</td>
</tr>
<tr>
<td>6. Harness assembly</td>
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<tr>
<td>7. Valved cylinder</td>
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<th>2. Spare cylinders</th>
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<tr>
<td>9 Ltr. X 300 Bar for 60 min use ultra-carbon composite material cylinder to be supplied as per IS standard and suitable for above set as a spare cylinder. (Quantity – 2 Nos.)</td>
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<tr>
<th>2. Back Plate (Body Harness)</th>
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<tr>
<td>Back plate should be anti-static, chemical, heat &amp; flame resistant, lightweight, water-resistant, with rubber shock absorber at the base and moulded carrying handles. The back plate should be orthopedically designed and have LDV holder &amp; an anti-vibration strap to prevent accidental loosening of cylinder from back plate due to vibration.</td>
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<tr>
<th>3. Full Face Mask</th>
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<tr>
<td>Full Face mask should be of protect 2000 series and approved as per IS &amp; manufactured out of EPDM rubber and have a double reflex face sealing. The visor should be made of Polycarbonate material. It should have suitable 5 finger head harness. The face mask should have a spring-loaded exhalation valve and a speech-diaphragm for better communication. The Face mask should have easy &amp; quick fitting to Demand Valve from the front.</td>
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<tr>
<th>4. Pneumatic-Pressure Reducer &amp; Lung Demand Valve &amp; Holes</th>
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<tr>
<td>The pressure reducer shall be of the 'balanced' type, with provision of safety pressure relief valve and air flow in excess of 1000 lit/min and at 30 bar in excess of 400 lit/min. The LDV should be first breath activated at 2-4 mbar and it should be balance piston type and plug in type from the front side of the mask. There should be provision for 2nd Lung Demand Valve Connection.</td>
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(cont.....)
5. **Pressure Gauge & Wring Device**

Pressure Gauge should be connected to the pressure reducer through high pressure hose (Non-Metallic outer surface). It should have a luminescent dial encased in a rubber cover. The **audible warning device** can be mounted on the pressure reducer high pressure line. Warning whistle should be a self-actuating type & shall have minimum sound intensity of 90Db which is of the two stage-type, i.e. activated by high pressure and operated by medium pressure.

6. **Air Cylinder**

The air cylinder should be of light weight & made of fully wrapped carbon composite material with water capacity of 6.8 / 9 litters and free air capacity of min 1800 litters and basically approved to PESO. The cylinder shall be supplied with inline type valve made from high tensile brass and shall be conforming to IS Standard. The design of the valve shall be such that and shall be located in such a way that it cannot be closed inadvertently during the use. The valve should also be approved to PESO. Cylinder valve shall be equipped with excess flow valve.

7. **Approvals**

- The SCBA set should be approved to IS 10245 (Part II) 1994 & marked
- Face Mask should be approved IS (certificate required)
- Cylinder should be PESO Nagpur approved and also provide certificate along with SCBA Set (Certificate required)
- Cylinder valve should be PESO Nagpur approved and also provide certificate along with SCBA Set (Certificate required)

8. **Additional Accessories**

Provide FRP material wall mounted carry case for SCBA Set

9. **Warranty**

The SCBA set should be warranted for period 12 months from the date of supply

10. **Inspection**

SCBA sets has inspected at supplier site in presence of our engineers and cleared before dispatch. The inspection includes air flow capacity measurement, breathing resistance, exhalation resistance, positive & negative pressure leak tests for musk/lung demand regulator and cylinder hydro testing. The inspection also includes testing and simulation on artificial lung for respirator performance tests, fume engulfment test.

11. **Demonstration and acceptance**

Demonstration should be carried out by supplier’s expert at our site and acceptance will be based on satisfactory performance of SCBA sets.

12. The supplier/bidder, who requires technical clarification, may contact Shri M. P. Wasnik. On telephone No. 27887176, 7175.

**Terms and conditions:**

i) **Materials:** No free material will be provided to the party. All the materials required for the work should be provided by the bidder. All the materials should be of standard specifications available in the market. The materials brought to the site should be got approved from the undersigned before use for the work.

Cont.....
ii) **Tools:** All the tools required for the work shall be arranged by party. Free electricity and water supply will be provided for the work.

iii) **Safety:** All the personnel of the contractor should take care of safety and follow the industrial safety regulation while working at site. Specific personnel protective equipment (PPE) required for the job will be provided by BARC as and when required. Any mishap occurring on the job due to unsafe work practice shall be vendor's liability.

iv) **Security:** Police Verification Certificates (PVC) is required for supervisor and all workers employed by the contractor inside the BARC. Security instructions on entry of workers, working time etc. are to be followed strictly.

v) **Work completion:** The time allowed for completion of the job is 60 days. The same shall be reckoned from the date of issue of work-order. Party should engage skilled and semi-skilled workers for the work with adequate supervisory staff.

vi) **Payment:** No advance or part payment will be made. The payment shall be made only on satisfactory completion of the work and on production of bill, advance stamped receipt and guarantee/warranty certificate for material quality and workmanship for one year. Income Tax @2% or as applicable at the time of billing will be deducted from your bill.

vii) **Penalty for delay:** Any delay which is attributable to the contractor is liable for penalty @½% per week of the total value of the work-order subject to a ceiling of 10% of the total value.

viii) The contractor is only responsible for any labour related dispute and any injury to contractor's worker during execution of the job.

( M.P. Wasnik )
Scientific Officer (D)
SMMS.PMD, BARC Vashi Complex
Navi Mumbai – 400 703
Tel : 2788 7175 / 7176