

MSME-TECHNOLOGY DEVELOPMENT CENTRE
 (Process Cum Product Development Centre)
 Meerut
 An Autonomous Organisation
 Under
Ministry of Micro Small and Medium Enterprises
Govt. of India

NOTICE INVITING e-TENDER

MSME - Technology Development Centre, Ministry of MSME, Government of India, invites online bids under two bid systems (i.e. Technical e-Bid and Financial e-Bid) for supply of OPTICAL EMISSION SPECTROMETER (OES). The e-Bid shall be submitted online on www.eprocure.gov.in. The Tender is available on www.ppdcm Meerut.com. No hard copy of e-Bids shall be accepted in the office. All prospective bidders may visit www.eprocure.gov.in. (Bidder's manual kit) before online submission of e-bid. May contact help desk no 0121-2511779 for technical queries.

TERMS AND CONDITIONS:

1. GENERAL

On the behalf of O/o MSME- Technology Development Centre (PPDC), Meerut, invites e-bids under Two Bid systems (Technical and Financial Bid) from suppliers of OPTICAL EMISSION SPECTROMETER (OES).

2. DETAILS OF e-BID:

| Sl. No | Particulars | Details |
|---------------|--|--|
| a. | Bid Reference | E-Tender No:PPDCM/4(9)/2019- 20/OES Dt. 16.05.2019 |
| b. | Last date and Time of receipt of Bid | Dt. 10.06.2019 by, 17:00hrs. |
| c. | Date and Time for Opening of Technical Bid | Dt.12.06.2019 by, 11:00hrs. |
| d. | Place of receiving the bid/communicati | MSME-Technology Development Centre (PPDC), Sports Goods Complex, Delhi Road, Meerut-250002, Uttar Pradesh. |
| e. | EMD | Rs. 60,000/- (Account Payee Demand Draft / Banker's cheque) in favour of PPDC, Meerut. EMD exempted for registered Micro and Small |
| f. | Financial Bid Opening | Will be intimated to qualified bidders in technical bid. |
| g. | Tender Fee | Rs.500/-non refundable (Account Payee Demand Draft/ Bankers Cheque) in favor of PPDC, Meerut, payable at Meerut. |
| h. | Pre-Bid meeting date | Dt.29.05.2019 by, 14:00hrs. |

3. SUBMISSION OF e-BIDS:

- a) E-Bids are invited in two Bid System. (1) Technical and (2) Financial and shall be submitted electronically (online) on www.eprocure.gov.in for supply of OPTICAL EMISSION SPECTROMETER (OES).
- b) E-Bids shall be submitted on or before last date 10.06.2019. **No Hard Copy of e-Bids will be accepted.** This office will not be responsible for any reasons beyond the control of this office.
- c) EMD of Rs.60,000/- (Rupees Sixty thousand only) and Tender fee of Rs. 500/- (Rs. five hundred only) in form of account Payee Demand Draft/ Bankers Cheque in favour of PPDC, Meerut , payable at Meerut, shall be submitted in the office before last date and time of submission. The e-bids will be opened only those who have submitted EMD's on or before the schedule date and time. Technical Bids of all the received tender will be opened on pre scheduled date, time & venue.

4. ELIGIBILITY/QUALIFICATION CRITERIA FOR TECHNICAL BID (SEE THE ANNEXURE-"A"):-

The Bidder has to submit the documentary evidences for the following:

- a. Tender fee of Rs. 500/- (Rs. five hundred only) in form of account Payee Demand Draft/ Bankers Cheque in favour of **"PPDC, Meerut"**, payable at Meerut.
- b. EMD of 60,000/- (Rupees Sixty thousands only) in form of account Payee Demand Draft / Bankers Cheque in favour of PPDC, Meerut, payable at Meerut.
- c. Authorization Letter in favour of authorized signatory.

5. TECHNICAL SPECIFICATION OF ITEMS of e-BID

MSME- Technology Development Centre Meerut, required following Technical Specifications of OPTICAL EMISSION SPECTROMETER (OES)

Qty. to be procured: 01 No.

Give detail of Earnest money deposit (EMD) in table below:-

TECHNICAL SPECIFICATION OF SPECTROMETER

- (1) Digital Controlled Source with parameters Current/Pulse Generation fully digitalized.
- (2) The Optical system shall be preferably Multiple Optics for covering both visible and ultra violet elements for high resolution and low detection limits across wide range of elements. Optics should be cooled and thermally stabilized against change in ambient temperature.
- (3) Latest Charge Coupled Device (CCD) high resolution multiple detectors minimum 12 Nos. 2085 pixels per CCD or better
- (4) Should have facility of Nitrogen analysis in Steels from 10ppm on wards in Low alloy steel. Overall optics Resolution should be minimum 25 picometers for UV optics and 30 picometers for visible optics or better Minimum wavelength coverage from 140nm-680nm Focal Length of minimum 500 mm if it is single optics or focal length of 300 mm or more in each optics in case of multiple optical system.
- (5) Highest accuracy and precision to detect elements in ppm levels, supporting manufacturer's application report of typical precision for all elements and concentration ranges to be clearly specified.
- (6) Analysis of Ferrous-and Non-Ferrous- Alloys. Configuration shall cover Fe, Al, Cu, Sn, Zn, Pb, Ni bases.
- (7) Provision of up gradation in future to add other bases/matrices without any hardware modification
- (8) Individual Argon Saver option for Optics and Spark Chamber
- (9) "The instrument should be equipped with user friendly software
- (10) Minimum number of setting up samples to reduce standardisation time of all six bases. One setting up sample for the calibration for all the base modules is preferable to save daily standardization time and savings on replacement cost after usage period.
- (11) One set of spares & consumables for trouble free operation
- (12) Calibration – Fe- Low Alloy/Cast Iron/ Stainless steel/High speed steel/Cr Hard Cast/Ni resist/Mn steel Non-Fe- Al Global/Al pure/ Al -Si alloys/ Al-Zn alloy/Cu-Global, Cu-pure, Cu-Brass, Cu / Sn Pb alloys, Al-Global, Sn- Global, Sn- Pure, Pb- Global, Pb- Pure, Pb-Sb alloy.
- (13) 2-Stage Metal Diaphragm Regulated Argon Regulator with Argon purifier. Can do small sample/wires/rode from 0.1mm to10mm diameter Warranty of instrument should be 1 year from date of installation minimum

(14) This should be scope electrical contractor

(15) Should Capable of Identification of elements

Fe based C, Si, Mn, P, S, Cr, Mo, Ni, Al, Co, Cu, Nb, Ti, V, W, Pb, Sn, Mg, As, Zr, Bi, Ca, Ce, Sb, Se, Te, Ta, B, Zn, La

Al Based Si, Fe, Cu, Mn, Mg, Cr, Ni, Zn, Ti, Ag, B, Ba, Be, Bi, Ca, Cd, Ce, Co, Ga, Hg, In, La, Li, Na, P, Pb, Sb, Sn, Sr, V, Zr, Sc, Mo

Cu Based Zn, Pb, Sn, P, Mn, Fe, Ni, Si, Mg, Cr, Te, As, Sb, Cd, Bi, Ag, Co, Al, S, Be, Zr, Au, B, C, Ti, Se, Nb, Pt

Zn Based Pb, Sn, Cu, Sb, Fe, Mn, Ni, Ti, In, Bi, Ce, Cr, Si, La, Ag, Ca, Li.

Sn Based Pb, Bi, Sb, Cu, Zn, Ag, Al, As, Au, Cd, Co, Fe, Ge, In, Ni, P, S, Se, Hg

Ni Based C, Mn, P, S, Si, Cu, Cr, Mo, W, Fe, Al, B, Co, Mg, Nb, Pb, Ti, V, Ta, Zr, Sn, Zn, N

(16) Software Capabilities

1. User-Friendly Auto Play Menu Window & Splash Screen
2. Auto-Log of burns including spectral data (unlimited)
4. Logging of results to external USB devices like Pen drives
5. Saver Software & Hardware for Argon Gas
6. Cylinder-to-Cylinder & Total Burn Counter
7. Auto Base & Auto Matrix Identification
8. Database Management (Back-Ups & Retrieval of Databases)
9. Auto-copy of Matrix Burn Set Parameters from common Base
10. Auto-copy of Lower & Upper SUS values in Type Matrix from Main Matrix
11. Features Enabling/Disabling through Software
12. Option to Show/Hide Elements
13. User-selectable Upper & Lower Clips
14. Option for Display of Analytical Results up to 6th decimal place.
15. Option for Display of Analytical Results in percentages or ppm
16. Carbon Equivalent with option to Show/Hide
17. Global re-standardization facility
18. Single/Multiple Burn Delete in Standardization
19. Element Sequence user selectable in Configuration & Current Status
20. Grade Analysis & Grade Standardization
21. Single/Multiple Burns Delete
22. Highlighting Results of a Particular Element
23. Report Writer with Report Templates
24. Transfer Data to Formatted Excel Sheet
25. Search option in Retrieve Data with Additional Search Criteria
26. Saving Spectrum to External Drives like USB/Flash Drives
27. Retrieve Data Facility in Check Sample
28. Custom Analytical Range Settings for all Elements
29. Emergency Stop using Software
30. sorting of grades
35. Gas Quality Check facility
36. Melt Addition Program for Multiple Elements in a Single Alloy
37. Grade Identification & Library

38. CRM Library with Recall

(17) Small sample analysis less than 12 mm diameter upto 1 mm diameter for Fe, Al, Cu bases with dedicated program and without usage of brittle ceramic or boron nitride disks should be provided.

(18) CRM for the following Base:-

| SNo. | Base | Reference No. | Material |
|------|----------|-----------------------------|-----------------------------|
| 1 | Fe based | BAS CRM 434/2 | Plain Carbon Steel |
| | | BAS CRM 112 | Low Alloy Steel |
| | | BAS CRM 281-1 | 18/9 Stainless Steel & Ti |
| | | BAS CRM 466/2 | Austenitic Stainless Steel |
| | | BAS CRM 470 | Ferritic Steel |
| | | BAS CRM 484-1 | Cast Iron |
| 2. | Al Based | BAS CRM 182/3 | 11% Silicon Aluminium alloy |
| | | BAS CRM 343 | Wrought Aluminium |
| 3. | Cu Based | BAS CRM 374 | P Bronze |
| | | BAS CRM 179/2 | High Tensile Brass |
| | | BAS CRM 364 | Pb Bronze |
| | | BAS CRM 399 | P. Deoxidised Copper |
| 4. | Ni Based | BAS CRM 363/1 | Monel Alloy |
| 5. | Zn Based | 41 X Z2P or equivalent | MBH make |
| | | 43 X Z4C or equivalent | MBH make |
| | | 41 X 0336Zn2M or equivalent | MBH make |

CALIBRATION FOR FE BASED ALLOY

| Element | MS/CS/LAS | | CI/SG IRON | | CR-NI STEEL | | ORIENTATION | |
|----------------|------------------|------|-------------------|------|--------------------|-------|--------------------|------|
| | Min % | Max% | Min % | Max% | Min % | Max% | Min % | Max% |
| C | 0.001 | 1.50 | 0.75 | 4.50 | 0.002 | 1.70 | 0.001 | 4.50 |
| Si | 0.0005 | 1.70 | 0.002 | 5.00 | 0.001 | 4.00 | 0.0005 | 6.0 |
| Mn | 0.0005 | 2.50 | 0.0005 | 1.50 | 0.002 | 2.00 | 0.0005 | 20.0 |
| P | 0.0005 | 0.75 | 0.001 | 1.20 | 0.001 | 0.10 | 0.0005 | 1.50 |
| S | 0.0005 | 0.75 | 0.001 | 1.00 | 0.0005 | 0.10 | 0.0005 | 1.00 |
| Cr | 0.0005 | 5.50 | 0.002 | 3.00 | 0.002 | 35.0 | 0.0005 | 35.0 |
| Mo | 0.001 | 1.50 | 0.001 | 1.50 | 0.003 | 6.50 | 0.001 | 11.0 |
| Ni | 0.001 | 5.50 | 0.0015 | 4.50 | 2.00 | 45.0 | 0.001 | 45.0 |
| Cu | 0.0002 | 1.20 | 0.0005 | 1.50 | 0.0005 | 3.50 | 0.0002 | 9.0 |
| Al | 0.0005 | 0.30 | 0.001 | 0.12 | 0.001 | 0.05 | 0.0005 | 3.0 |
| As | 0.0005 | 0.20 | 0.001 | 0.15 | 0.001 | 0.13 | 0.0005 | 0.20 |
| B | 0.0001 | 0.05 | 0.0002 | 0.10 | 0.0001 | 0.01 | 0.0001 | 1.50 |
| Bi | 0.0005 | 0.10 | 0.007 | 0.02 | 0.008 | 0.25 | 0.0005 | 0.25 |
| Ce | 0.002 | 0.05 | 0.004 | 0.05 | | | 0.002 | 0.25 |
| Co | 0.0005 | 0.50 | 0.0015 | 0.50 | 0.001 | 0.60 | 0.0005 | 10.0 |
| Mg | 0.001 | 0.10 | 0.002 | 0.15 | | | 0.001 | 1.50 |
| Nb | 0.0005 | 0.32 | 0.001 | 0.35 | 0.001 | 2.80 | 0.0005 | 3.00 |
| Pb | 0.001 | 0.25 | 0.003 | 0.05 | | | 0.001 | 0.25 |
| Sb | 0.001 | 0.14 | 0.005 | 0.15 | 0.01 | 0.25 | 0.001 | 0.25 |
| Sn | 0.0005 | 0.20 | 0.0005 | 0.20 | 0.0005 | 0.02 | 0.0005 | 0.20 |
| Ti | 0.0001 | 0.82 | 0.0005 | 0.50 | 0.001 | 2.50 | 0.0001 | 4.50 |
| V | 0.0005 | 1.10 | 0.0005 | 1.20 | 0.0005 | 1.50 | 0.0005 | 11.0 |
| W | 0.001 | 0.75 | 0.005 | 0.30 | 0.008 | 0.50 | 0.001 | 30.0 |
| Zn | 0.0005 | 0.10 | 0.001 | 0.25 | | | 0.0005 | 0.25 |
| Zr | 0.001 | 0.10 | 0.001 | 0.04 | | | 0.001 | 0.10 |
| Se | 0.001 | 0.10 | 0.003 | 0.03 | | | 0.001 | 0.40 |
| N | 0.0015 | 0.20 | 0.002 | 0.02 | 0.01 | 1.20 | 0.0015 | 1.20 |
| Ca | 0.0001 | 0.15 | 0.001 | 0.10 | 0.001 | 0.012 | 0.0001 | 0.15 |
| Te | 0.001 | 0.05 | 0.002 | 0.05 | | | 0.001 | 0.05 |
| Ta | 0.01 | 0.20 | | | | | 0.01 | 0.55 |
| La | 0.001 | 0.03 | 0.001 | 0.07 | | | 0.001 | 0.08 |

CALIBRATION FOR CU BASED ALLOY

| Element | PURE CU | | GUN METAL | | BRASS | | Cu_Sn/Pb | | Orientation | |
|---------|---------|------|-----------|-------|--------|-------|----------|-------|-------------|------|
| | Min % | Max% | Min % | Max% | Min % | Max% | Min % | Max% | Min % | Max% |
| Sn | 0.0002 | 0.20 | 0.008 | 12.0 | 0.001 | 3.00 | 0.10 | 22.00 | 0.0002 | 22.0 |
| Pb | 0.0005 | 0.40 | 0.01 | 12.0 | 0.002 | 5.00 | 0.002 | 25.00 | 0.0005 | 25.0 |
| Fe | 0.0002 | 0.20 | 0.0005 | 0.75 | 0.0005 | 5.00 | 0.0005 | 0.50 | 0.0002 | 7.00 |
| Ni | 0.0005 | 0.45 | 0.0005 | 3.50 | 0.002 | 3.30 | 0.005 | 5.00 | 0.0005 | 40.0 |
| Al | 0.0005 | 0.20 | 0.0005 | 0.75 | 0.0005 | 2.00 | 0.0005 | 0.20 | 0.0005 | 15.0 |
| As | 0.0002 | 0.10 | 0.001 | 0.28 | 0.0005 | 0.30 | 0.0 | 0.3 | 0.0002 | 0.5 |
| Sb | 0.0001 | 0.30 | 0.002 | 1.30 | 0.002 | 0.40 | 0.005 | 0.80 | 0.0001 | 1.3 |
| P | 0.0001 | 0.10 | 0.0005 | 0.25 | 0.0005 | 0.30 | 0.0005 | 1.00 | 0.0001 | 1.1 |
| Si | 0.0003 | 0.20 | 0.0005 | 0.75 | 0.0005 | 1.50 | 0.001 | 0.20 | 0.0003 | 8.0 |
| Bi | 0.0001 | 0.10 | 0.001 | 6.00 | 0.002 | 1.00 | 0.008 | 0.30 | 0.0001 | 6.0 |
| Co | 0.0004 | 0.10 | | | 0.005 | 0.10 | 0.002 | 0.20 | 0.0004 | 2.40 |
| S | 0.0001 | 0.10 | 0.0005 | 0.75 | 0.005 | 0.10 | 0.005 | 0.20 | 0.0001 | 0.75 |
| Zn | 0.0001 | 0.20 | 0.25 | 12.00 | 1.00 | 46.00 | 0.002 | 10.00 | 0.0001 | 46.0 |
| C | 0.001 | 0.03 | | | | | | | 0.001 | 0.10 |
| Mn | 0.0001 | 0.14 | 0.0002 | 0.50 | 0.0005 | 6.00 | 0.0002 | 0.45 | 0.0001 | 7.0 |
| Mg | 0.0001 | 0.05 | | | | | 0.0005 | 0.01 | 0.0001 | 0.20 |
| Cr | 0.0002 | 0.90 | 0.001 | 0.06 | | | | | 0.0002 | 2.50 |
| Ag | 0.0001 | 0.55 | 0.0005 | 0.05 | 0.0005 | 3.00 | 0.0005 | 0.10 | 0.0001 | 3.00 |
| Be | 0.0001 | 0.12 | | | 0.0002 | 0.01 | | | 0.0001 | 2.80 |
| Nb | | | | | | | | | 0.003 | 1.50 |
| Au | 0.001 | 0.20 | | | | | | | 0.001 | 0.20 |
| In | 0.0008 | 0.10 | | | | | | | 0.0008 | 1.00 |
| Cd | 0.0001 | 0.05 | | | 0.002 | 0.13 | | | 0.0001 | 0.13 |
| Se | 0.0001 | 0.05 | 0.005 | 1.40 | 0.001 | 0.02 | | | 0.0001 | 1.40 |
| Zr | 0.0001 | 0.05 | | | | | | | 0.0001 | 0.50 |
| Te | 0.0005 | 0.07 | | | | | | | 0.0005 | 0.07 |
| B | 0.0001 | 0.01 | | | | | | | 0.0001 | 0.01 |

CALIBRATION FOR AL BASED ALLOY

| Element | Al_Si_Cu | | Al Pure | | Al Cu | | Al_Mg | | Orientation | |
|---------|----------|------|---------|------|--------|------|--------|-------|-------------|------|
| | Min % | Max% | Min % | Max% | Min % | Max% | Min % | Max% | Min % | Max% |
| Si | 1.00 | 25.0 | 0.0002 | 2.00 | 0.001 | 2.00 | 0.001 | 1.50 | 0.0002 | 25.0 |
| Fe | 0.002 | 2.00 | 0.0001 | 1.50 | 0.002 | 1.00 | 0.002 | 1.00 | 0.0001 | 3.30 |
| Cu | 0.001 | 22.0 | 0.0002 | 0.50 | 1.00 | 22.0 | 0.001 | 1.0 | 0.0002 | 22.0 |
| Mg | 0.0001 | 1.50 | 0.0001 | 1.70 | 0.001 | 2.50 | 1.00 | 15.0 | 0.0001 | 15.0 |
| Mn | 0.0005 | 1.50 | 0.0002 | 1.50 | 0.001 | 1.10 | 0.0005 | 1.50 | 0.0002 | 12.0 |
| Ti | 0.0005 | 0.50 | 0.0001 | 0.60 | 0.00 | 0.50 | 0.0005 | 0.5 | 0.0001 | 0.6 |
| Zn | 0.002 | 5.50 | 0.0005 | 0.50 | 0.001 | 0.50 | 0.001 | 0.50 | 0.0005 | 13.0 |
| Ni | 0.002 | 4.50 | 0.0001 | 0.50 | 0.002 | 2.0 | 0.001 | 0.50 | 0.0001 | 4.5 |
| Pb | 0.003 | 0.50 | 0.0015 | 1.0 | 0.003 | 0.50 | 0.003 | 0.50 | 0.0015 | 1.0 |
| Sn | 0.002 | 0.50 | 0.0005 | 0.02 | 0.002 | 0.50 | 0.002 | 0.50 | 0.0005 | 1.0 |
| Cr | 0.002 | 0.50 | 0.0001 | 0.50 | 0.001 | 0.50 | 0.0005 | 0.50 | 0.0001 | 0.50 |
| Be | 0.0001 | 0.07 | 0.0001 | 0.01 | 0.0001 | 0.05 | 0.0001 | 0.05 | 0.0001 | 0.08 |
| Sr | 0.0002 | 0.14 | 0.0001 | 0.05 | 0.0005 | 0.10 | 0.0005 | 0.10 | 0.0001 | 0.15 |
| Zr | 0.001 | 0.11 | 0.0003 | 0.05 | 0.0005 | 0.50 | 0.002 | 0.50 | 0.0003 | 0.50 |
| Ca | 0.0001 | 0.05 | 0.0001 | 0.01 | | | 0.0001 | 0.001 | 0.0001 | 0.05 |
| V | 0.002 | 0.20 | 0.0005 | 0.15 | 0.002 | 0.11 | 0.001 | 0.02 | 0.0005 | 0.20 |
| Bi | 0.002 | 0.11 | 0.0005 | 0.65 | 0.003 | 0.06 | 0.002 | 0.10 | 0.0005 | 0.65 |
| Ga | 0.001 | 0.10 | 0.0005 | 0.10 | | | 0.001 | 0.05 | 0.0005 | 0.10 |
| Ag | | | 0.0001 | 0.20 | 0.0005 | 1.10 | | | 0.0001 | 1.10 |
| In | | | 0.001 | 0.02 | | | | | 0.0001 | 0.02 |
| Mo | | | 0.001 | 0.05 | | | | | 0.001 | 0.05 |
| Sb | 0.001 | 0.14 | 0.001 | 0.10 | 0.007 | 0.14 | | | 0.001 | 0.14 |
| Co | 0.001 | 0.60 | 0.001 | 0.05 | 0.001 | 0.40 | | | 0.001 | 0.65 |
| Cd | 0.0005 | 0.01 | 0.0001 | 0.13 | 0.0005 | 0.02 | 0.0003 | 0.001 | 0.0001 | 0.35 |
| B | 0.001 | 0.05 | 0.0001 | 0.03 | | | | | 0.0001 | 0.05 |
| P | 0.001 | 0.02 | 0.001 | 0.01 | | | | | 0.001 | 0.02 |
| Ce | | | 0.0002 | 0.05 | | | | | 0.0002 | 0.05 |
| Ba | | | 0.0001 | 0.02 | | | | | 0.0001 | 0.02 |
| Li | 0.0002 | 0.01 | 0.0001 | 0.05 | 0.0002 | 0.00 | 0.0003 | 0.001 | 0.0001 | 0.05 |
| Na | 0.0005 | 0.01 | 0.0001 | 0.05 | | | 0.0002 | 0.01 | 0.0001 | 0.05 |
| Hg | | | 0.002 | 0.08 | | | | | 0.002 | 0.08 |
| As | | | 0.003 | 0.01 | | | | | 0.003 | 0.01 |
| La | | | 0.0002 | 0.04 | | | | | 0.0002 | 0.04 |

CALIBRATION FOR NI BASED ALLOY

| Element | Ni Pure | | Ni Hastelloy | | Ni Monel | |
|---------|---------|-------|--------------|------|----------|------|
| | Min % | Max% | Min % | Max% | Min % | Max% |
| Si | 0.0001 | 0.50 | 0.005 | 2.20 | 0.002 | 5.0 |
| Mn | 0.0005 | 1.50 | 0.002 | 1.50 | 0.002 | 4.0 |
| Cu | 0.005 | 2.00 | 0.001 | 2.00 | 20.0 | 35.0 |
| Fe | 0.0005 | 4.00 | 0.008 | 25.0 | 0.005 | 4.0 |
| Cr | 0.0005 | 1.00 | 8.00 | 35.0 | 0.002 | 0.60 |
| Mo | 0.001 | 0.500 | 0.01 | 37.0 | 0.005 | 0.10 |
| Co | 0.001 | 4.00 | 0.002 | 4.00 | 0.005 | 0.50 |
| Ti | 0.0005 | 1.00 | 0.002 | 2.00 | 0.002 | 2.00 |
| Mg | 0.0001 | 0.25 | 0.001 | 0.02 | 0.0005 | 2.0 |
| Al | 0.0005 | 0.50 | 0.002 | 7.00 | 0.002 | 2.0 |
| Nb | 0.001 | 0.50 | 0.001 | 7.20 | 0.001 | 2.0 |
| W | 0.002 | 0.10 | 0.015 | 15.0 | | 2.0 |
| V | 0.0005 | 0.01 | 0.005 | 1.00 | | 2.0 |
| C | 0.001 | 0.30 | 0.002 | 0.35 | 0.002 | 0.20 |
| Ta | 0.002 | 0.05 | 0.002 | 0.05 | | |
| Zr | 0.001 | 0.20 | 0.01 | 0.30 | 0.01 | 0.15 |
| B | 0.0003 | 0.01 | 0.0005 | 0.02 | 0.004 | 0.02 |
| P | 0.0003 | 0.05 | 0.001 | 0.06 | 0.001 | 0.30 |
| S | 0.0001 | 0.01 | 0.002 | 0.06 | 0.001 | 0.10 |
| Pb | 0.0001 | 0.10 | | | 0.005 | 0.07 |
| Sn | 0.0005 | 0.20 | 0.001 | 0.01 | | |
| Zn | 0.001 | 0.01 | | | | |
| N | 0.0025 | 0.10 | 0.003 | 0.03 | | |

CALIBRATION FOR ZN BASED ALLOY

| Element | Pure Zn | | Zamak | |
|---------|---------|-------|--------|-------|
| | Min % | Max% | Min % | Max% |
| Pb | 0.0001 | 0.50 | 0.0008 | 0.05 |
| Mg | 0.0001 | 0.15 | 0.0005 | 0.20 |
| Al | 0.0001 | 0.55 | 0.01 | 11.00 |
| Cd | 0.0001 | 0.20 | 0.0002 | 0.05 |
| Sn | 0.0001 | 0.20 | 0.002 | 0.01 |
| Cu | 0.0001 | 0.20 | 0.001 | 7.00 |
| Sb | 0.0005 | 0.15 | | |
| Fe | 0.0005 | 0.30 | 0.002 | 0.07 |
| Mn | 0.0001 | 0.05 | 0.0002 | 0.10 |
| Ni | 0.0004 | 0.06 | 0.001 | 0.03 |
| Ti | 0.0005 | 0.01 | | |
| In | 0.0002 | 0.03 | | |
| Bi | 0.0002 | 0.03 | 0.001 | 0.02 |
| Ce | 0.001 | 0.05 | 0.003 | 0.06 |
| Cr | 0.001 | 0.20 | 0.002 | 0.01 |
| Si | 0.001 | 0.01 | 0.002 | 0.02 |
| La | 0.001 | 0.03 | | |
| Ag | 0.0001 | 0.001 | | |
| Ti | 0.0001 | 0.02 | 0.0002 | 0.02 |
| Ca | 0.0008 | 0.03 | 0.001 | 0.05 |
| Li | 0.0008 | 0.001 | 0.001 | 0.05 |

6. INSTRUCTIONS/CONDITIONS:

- 1 The supplier should read the tender paper carefully. Submission of tender shall mean that the supplier has read and understood all the terms & conditions of the tender and agrees and binds himself to the same. All pages of the tender document should be signed and stamped by the supplier and returned with the offer.
- 2 Only original machine / equipment/product manufacturers/suppliers or their authorized agents having after sales service & maintenance facilities are eligible to quote.
- 3 The Supplier should quote competitive prices applicable to educational institutions.
4. Tender should accompany Bid security (Also known as Earnest Money Deposit) for an amount of Rs.60,000/-(Rupees Sixty thousands only) for Optical Emission SPECTROMETER in the form of account Payee Demand Draft/ Bankers Cheque drawn in favor of PPDC, Meerut, payable at Meerut, along with technical bid of the tender as mentioned at S.No.6 below. No other mode of payment is acceptable. Tenders without Earnest Money Deposit will not be accepted. However the suppliers registered with DGS&D and/or NSIC for machine/equipment/product mentioned in tender document are exempted from depositing Earnest Money on submission of proof of registration along with the e- tender.
- 4 The tenders must be received upto 17.00 hrs. on 10.06.2019 and technical e- bids will be opened on 12.06.2019 at 11.00 hrs. At MSME-TDC (PPDC), in presence of intending Tenderers who wish to be present on the occasion.
- 5 Date and time for opening the financial e-bids will be decided after finalization of Technical e-Bids. A notice shall be given, by Fax/Speed Post/Registered Post/E-Mail/Courier, to the Tenderers whose Technical e-Bid is accepted after scrutiny of technical e-bids of tender. However opening of financial e-bids of a tender shall be without any commitment whatsoever.
- 6 Tenders received after last date & time of submission, are liable to be rejected.
- 7 A security deposit of 10% of the purchase order value, should be deposited by the supplier through a bank demand draft/ performance bank Guarantee in favor of PPDC Meerut, payable at Meerut, within 15 days of receipt of acceptance of the order. The security deposit is refundable after 60 days of completion of all contractual obligations by the supplier.
- 8 Items should be delivered within 60 days from the date of receipt of acceptance of order/ date of opening of LC. Supplier may ask the extension for delivery one time only at the discretion of purchaser.
- 9 Failure and Termination: On acceptance of tender, if the Tenderer whose

tender is accepted fails to deliver the machine/equipment/products within the period fixed for such delivery in the contract or as extended or at any time repudiates the contract before the expiry of such period the Purchaser may without prejudice to their other rights:

a) Recover from the contractor liquidated damages by way of penalty a sum of equivalent to 2% of the price of any machine/equipment/products (including element of taxes, freight etc.) which contractor have failed to deliver within the period fixed for delivery in the contract or as extended, for each month or part of a month for which the delivery of such machine/equipment/products may be in arrears when delivery thereof is accepted after expiry of the aforesaid period subject to maximum of 7.5% of the purchase order value.

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b) Cancel the contract or a portion thereof and, if so desired purchase the machine/equipment/products not so delivered or others of a similar description (where machine/equipment/products exactly complying with particulars are not , in the opinion of the Purchaser [which shall be final] readily procurable) at the risk and cost of the contractor. It shall , however, be the discretion of the purchaser to obtain or not, the performance guarantee bond from the firm/firms on whom the contract is placed at the risk and expense of the defaulting firm/firms.

- 10 All testing facilities shall be provided by the firm on whom supply order is placed, free of cost to inspecting officer to test, to be carried out by him on the stores submitted. All testing charges are to be borne by the suppliers. The purchaser may, at his discretion, waive inspection before dispatch and inspect the same on receipt , installation & commissioning at site. Centre's right to inspect, test and where necessary, reject the items after the item's arrival and/or installation & commissioning shall in no way be limited or waived by reason of machine/equipment/products having been previously inspected, tested and passed by the centre or its authorized representative.
- 11 The supplier shall be responsible for installation & commissioning of the machine/equipment/products. The supplier would be responsible to train the engineers and/or operators for use and maintenance etc.
- 12 Machine/Equipment/products are to be installed & commissioned and used at PPDC, Meerut.
- 13 Tenders shall be valid for a period of 180 days from the date of opening of Technical bids.
- 14 The centre reserves the right to alter, cancel, accept, modify, split, vary the quantities, any terms, conditions and specifications etc., or reject or postpone the procurement either fully or partly without assigning any reason there off.
- 15 Any order resulting from the tender enquiry shall be governed by the general terms and conditions of this contract.

- 16 Where counter terms and conditions of business have been offered, PPDC, Meerut shall not be deemed to be governed by these and bound by them unless specific written acceptance thereof has been given by PPDC, Meerut.
- 17 The price must be quoted for each item along with taxes, duties and other levies, if any, shown separately.
- 18 The centre reserves the right to reject the material if found substandard and not as per specifications and supplier must make arrangements to replace the same with correct material at the premises of the centre, within a period of 15 days from the date of communicating the rejection. The party shall bear all expenses involved in such an event.
- 19 The centre will pay taxes as applicable/ wherever necessary.
- 20 All goods liable to damage or deterioration in transit must be insured by the suppliers at their own cost.
- 21 Centre may arrange Road Permit on receipt of Performa Invoice with reference to the purchase order.
25. Mere participation in the tender and offering of lowest rates does not confer any right on any party for placing order on them.
26. All the disputes arising out of the contract shall be subject to Meerut, (U.P. India) jurisdiction only.
27. Parties are required to effect supplies, commission and install the machinery/ equipment/ products at PPDC, Meerut and extend/maintain warranty / guaranty at the site. Guaranty/Warranty of a period of 36 months would commence from the date of completion of installation commissioning and training. 10% of contract value would be released on receipt of bank guarantee of equal amount valid for 1 year period.
28. Training charges either at supplier's work place or at any other place will be to the suppliers account.
29. Suppliers must submit with their offer, list of customers (with their full address, Phone Number) to whom they have made similar supplies in the past.
30. The supplier should also mention the nearest service centre of the machine equipment/products as quoted by the supplier/manufacturer.
31. Foundation drawings and other installation & commissioning instructions/procedure are to be forwarded by the supplier, where applicable, whose tender is accepted, to the centre immediately on receipt of acceptance of order.
32. In all the matters concerned to and not covered in the terms & conditions, the decision of the Principal Director, MSME-TDC (PPDC), Meerut shall be final and binding on the parties. However, any dispute or difference arising in interpretations or applications of provisions of the contract, shall be referred to the sole arbitration of the Additional Secretary & Development Commissioner (MSME) / Chairman, G.C., MSME-TDC (PPDC), Meerut,

Ministry of Micro Small & medium Enterprises, Govt. of India, 7th Floor, Nirman Bhawan, Maulana Azad Road, New Delhi 110108 or any other person appointed by him. The award of the arbitrator shall be final and binding on the both the parties.

33. Other important conditions of the Tender are:

- i) The financial e-Bid quoted in e-TENDER shall be on the following basis:
 - a) Foreign Tenderers shall quote prices in USD or EURO or Pound on the basis of CIF/CIP Delhi Airport, including airworthy/seaworthy packing, and handling and forwarding charges. In the case of offers for imported machine/equipment/goods Tenderers shall include in their offer the name of the person or the firm who will be acting as their representatives/agent in India in respect of the offer. Tenderers shall also indicate the service facilities which they or their representative/agent have in India. If the foreign Tenderers have no representatives in India they shall indicate in their offer the service facility they intend to provide.

In the case of foreign offers the agency commission payable by the Tenderers to their Indian Agents under the contract will be converted to Indian Rupees at the telegraphic transfer buying rate of exchange ruling on the date of acceptance of tender and shall not be subject to any further exchange variation. The agency commission shall be paid in non convertible Indian Rupees by the Centre directly to the agents.

CERTIFICATE IN SUPPORT OF RETENTION OF INDIAN AGENTS INDICATING THE AGENCY COMMISSIONS INCLUDED IN THE PRICE AND RESPONSIBILITIES OF THE SERVICE TO BE RENDERED BY THE INDIAN AGENT SHOULD BE ENCLOSED WITH TECHNICAL e-BIDS OF THE TENDER.

- b) In the case of indigenous offers the Tenderers are not entitled to any agency commission.

For indigenous machine/equipment/goods the price quoted should be FOR destination i.e. free delivery at PPDC, Meerut including unloading. Unless IGST, Sales Tax/VAT, packing, handling and forwarding charges are indicated separately these will be presumed to have been included by the Tenderers in the price quoted. Therefore the supplier must indicate clearly the details of all elements of taxes, SGST,CGST,IGST, Packing & Forwarding charges etc. to be charged. It may please be noted this centre may provide prevailing available relevant form to avail concessional Sales Tax.
- c) In case tender is submitted by the Indian Agent for supply of machine /equipment /goods from outside India, manufactured/supplied by their Principals, Performa Invoice of

their Principals should be enclosed with the tender submitted by the Indian Agents which should clearly indicate price, specifications, terms & conditions and the Indian Agent's commission and responsibilities and services to be rendered by Indian Agents. In case of indigenous supply of machinery/equipments/goods, this Centre may arrange Road Permit on receipt of Performa Invoice with reference to the Purchase Order.

- d) The supplier should submit a Certificate to the paying authority as specified below:
"The Excise Duty claimed from you is actually paid by us to the Excise Authorities/Govt. Agencies and in case any refund is received from the Excise Authorities/Govt. agencies, the same shall be passed on in full to the benefit of the purchaser".
- ii) The basic consideration and the essence of the contract shall be strict adherence to the stipulated time schedule for the supply of contracted machine/equipment/goods i.e. "Time is the essence of Contract".
In the case of indigenous/Foreign suppliers offers the Purchaser will not pay separately for transit insurance and the Contractor will be responsible till the entire machine/equipment/goods contracted arrive in good condition at destination.
- iii) In the case of CIF/CIP contract i.e. foreign supplies, the Contractor should give adequate notice to the forwarding agent to be notified by the Purchaser about the readiness of the cargo for shipment by an Indian Vessel. The Bill of Lading should be drawn as "FREIGHT TO PAY".
- iv) Force Majeure: The Contractor shall not be liable to forfeiture of security deposit, liquidated damages or termination for default, if and to the extent the delay in performance or other failures to perform its obligations under the contract is the result of an event of Force Majeure. For the purpose of this clause "Force Majeure" means an event beyond the control of the Contractor and not involving the Contractor's fault or negligence and not foreseeable. Such events may include, but are not restricted to, acts of the Purchaser either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes. If a Force Majeure situation arises, the Contractor shall promptly notify the Purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Contractor shall continue to perform his obligations under the contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event
- v) Machine/equipment/goods is subject to inspection by the official/agency to be authorized for this purpose if so desired by the Purchaser before shipment at Contractor's work and after receipt, installation and commissioning. The Purchaser may, at his discretion, waive inspection before dispatch and inspect the same on receipt, installation and

commissioning at site, Centre's right to inspect, test and, where necessary, reject the machine/equipment/goods after the machine/equipment/goods' arrival and/or installation and commissioning shall in no way be limited or waived by reason of machine/equipment/goods having been previously inspected, tested and passed by the Centre or its authorized representative prior to shipment or by waiver of inspection before shipment. The supplier shall be responsible for installation and commissioning of the equipment/machinery by interacting with the Centre. Also the supplier would be responsible to train the engineers and operators in use and maintenance. etc.

Vi) The payment terms shall be as below:

- a) In case of supplies from outside India an irrevocable Letter of Credit shall be opened for 100% payment out of which 90% shall be paid against dispatch of documents and other documents to be specified in Acceptance of Tender. Balance 10% payment would be released on receipt of Bank guarantee of equal amount for the guarantee /warranty period on issue of certificate by the Purchaser that the machine/equipment/goods has been installed and commissioned satisfactorily besides operational training at site.
- b) For indigenous suppliers:90% payment will be made within 30 days of receipt of the goods in satisfactory condition as per specification mentioned in purchase order/tender document and also after installation & commissioning and giving satisfactory working demonstration of the machine/equipment and training thereon at destination. 10% payment would be released on receipt of Bank guarantee of equal amount for the guarantee /warranty period.
- c) The title of ownership will be transferred to the Centre after 90% payment made on dispatch.

Vii) In all the matters concerned to and not covered in the terms & conditions, the decision of the Principal Director, MSME-Technology Development Centre (PPDC), Meerut shall be final and binding on the parties. However, any dispute or difference arising in interpretations or applications of provisions of the Contract, shall be referred to the sole arbitration of the Additional Secretary & Development Commissioner(MSME)/ Chairman, G.C., PPDC, Meerut., Ministry of Small Scale Industries, Govt. of India, 7th Floor, Nirman Bhavan, Maulana Azad Road, New Delhi-110108 or any other person appointed by him. The award of the arbitrator shall be final and binding on both the parties. Arbitration shall be governed by Indian Arbitration Act.

viii) In case of any change in the constitution of firm Tenderers/Contractors shall notify the same to the Centre provided that such change shall not relieve any former member/partner of the firm from any liability under the contract and provided that no new member/partner shall

be accepted by the firm unless he agrees to abide by all the terms and conditions of this contract.

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Signature of the supplier with stamp

Designation-----

Place-----
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Date-----

7. TECHNICAL & FINANCIAL BID OPENING AND EVALUATION PROCEDURE

The e-bids received shall be assessed and evaluated based on the qualification criteria. An evaluation committee will undertake the screening of all the tenders based on the Eligibility/Qualification criteria for technical bid. The bidders must meet all pre-qualifying criterions. Any agency not meeting any of the requirements for technical bid will not be short-listed for the opening financial Bid.

8. RESOLUTION OF DISPUTES

In all the matters concerned to and not covered in the terms & conditions, the decision of the Principal Director, MSME-TDC (PPDC), Meerut shall be final and binding on the parties. However, any dispute or difference arising in interpretations or applications of provisions of the contract, shall be referred to the sole arbitration of the Additional Secretary & Development Commissioner (MSME) / Chairman, G.C., MSME-TDC (PPDC), Meerut, Ministry of Micro Small & medium Enterprises, Govt. of India, 7th Floor, Nirman Bhawan, Maulana Azad Road, New Delhi 110108 or any other person appointed by him. The award of the arbitrator shall be final and binding on the both the parties.

12. FORMAT FOR SUBMITTING TECHNICAL e-BID

ANNEXURE "A"

ON LETTER HEAD OF THE BIDDER TECHNICAL e-BID

| S. No. | PARTICULARS | YES | NO | PAGE NO. |
|--------|--|-----|----|----------|
| 1. | Document to prove that the suppliers are original machine /equipment/ product manufacturers or their authorized agents. | | | |
| 2. | D.D. for Earnest Money Deposit/copy of certificate of registration with DGS&D and/ or NSIC for quoted Machine/equipment/product. | | | |
| 3. | Copy of income tax certificate/return or PAN No. | | | |
| 4. | Certificate to effect that excise duty collected will be duly remitted to authorities etc. | | | |
| 5. | Catalogue of Equipment/s offered | | | |
| 6. | Any other relevant details | | | |
| 7. | Tender fee..... | | | |

Signature of the supplier with

stamp Designation-----

Place-----

Date-----
