

SPONSORED RESEARCH, INDUSTRIAL CONSULTANCY & CONTINUING EDUCATION CELL NATIONAL INSTITUTE OF TECHNOLOGY ROURKELA – 769 008, ODISHA

Advertised Tender Enquiry

Department: Ceramic Engineering

Tender Notice No.: NITR/PW-SR/CR/2019/167 Date: 19/11/2019

To

Important Dates

Thro	ugh
CPP	Portal
(E-p	rocurement)

Event	Date	Time
Pre-bid Conference	NA	NA
Last Date of submission of bid	17/12/2019	11:00 AM
Date of opening of techno-commercial bid	18/12/2019	11:00 AM

Dear Sir,

We intend to purchase the commodities specified below and invite quotations in accordance with the terms and conditions detailed in the bid document. If you are interested, kindly send your offer with prices and complete terms within the time mentioned above.

For any clarification, you may contact to

Attention:

Prof. P. Saha, PIC, Glovebox,

Department of Ceramic Engineering
NATIONAL INSTITUTE OF TECHNOLOGY

ROURKELA - 769 008, ODISHA

Phone: (0661) - 2462211

Mobile No. +91-7064031486 / 7008114012

Fax : 0661 - 2462999E-mail: $\underline{sahap@nitrkl.ac.in}$ /

sahapartha29@gmail.com

Yours sincerely,

Name: Prof. P. Saha

PIC, lovebox

Project Code: SR/19/CR/011

Encl:

- (1) Schedule of requirement, specifications, dates etc.
- (2) Bid document containing detail terms and conditions.

1. Schedule of requirements

Sl. No.	Description of Goods/Service	Quantity
01.	Glovebox (Detailed specification as per Annexure – I)	01 unit
	Accessories	
02.	Analytical weighing balance	01 unit
	(Detailed specification as per Annexure – I)	
03.	Ultra-high purity argon + 5% hydrogen gas mixture	01 unit
	cylinder (Detailed specification as per Annexure – I)	
04.	Ultra-high purity argon gas cylinder	03 units
	(Detailed specification as per Annexure – I)	
05.	Stainless steel regulator	01 unit
	(Detailed specification as per Annexure – I)	
06.	Online UPS with isolation transformer	01 unit
	(Detailed specification as per Annexure – I)	

2. Specifications and allied Technical Details

- **3. Format of Quotation** (tick appropriate box)
 - \checkmark It is a two-part bid with separate techno-commercial and price bids.
- **4.** The bid should be submitted through https://eprocure.gov.in/eprocure/app
- **5.** Quotations should be valid for a period of **90 days** from the date of opening of techno-commercial bid.

6. Some important dates:

	i.	Pre-bid Conference:	Date:	NA	Time: NA
Ī	ii.	Last date of submission of bid :	Date:	17/12/2019	Time: 11:00 AM
	iii.	Date of opening of techno-commercial bid:	Date:	18/12/2019	Time: 11:00 AM

7. Warranty: 02 years standard warranty.

8. Technical bid evaluation criteria:

- As per the detail equipment technical specifications given in **Annexure I**. If required, the bidder may be asked to provide clarification regarding the technical aspects.
- A complete design along with clear indication/marking of specification mentioned in the technical bidding document (wherever possible) of the unit must be provided with the bidding document.
- Scanned copy of technical brochure and website reference of the same must be included in the bid. The specification mentioned in the bid document must tally with the technical brochure.
- Technical specification of the unit with "Yes/No" format against each specification will not be considered a technical bidding document. A separate compliance sheet of technical specification with specific value of the unit along with the deviation must be included.
- During the course of technical bid evaluation, NIT Rourkela, may, at its discretion ask the bidder for clarification of its bid. The request for clarification and the response shall be in writing/email and no change in prices or substance of the bid shall be sought, offered or permitted.

9. Financial bid evaluation criteria:

- Financial bid comparison will be made on overall items/overall L1 price basis as quoted in BOQ.
- In case optional items are specified in the tendered specifications, the Purchaser reserves the right to buy or not to buy the optional items. In case the option is exercised to buy the optional items after Bid opening, then the cost of optional items would be included to ascertain the Lowest Evaluated Responsive Bid. In case, the option is exercised not to buy the optional items, then the cost of the optional items would not be included in ascertaining the Lowest Evaluated Responsive Bid.
- Prices of additional / optional items not appearing in the BOQ, if any, shall be quoted in a separate PDF file, duly signed by Bidder's authorized person/persons
- If any component/ additional instrumental unit/consumables which is required for smooth running of instrument is made in India that must be quoted in INR.
- The comparison between the indigenous and the foreign offers shall be made on FOB NIT Rourkela basis and CIF / CIP Kolkata basis, respectively.
- The Bidder shall bear all costs associated with the preparation and submission of its bid, and "the Purchaser", will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.
- Note: Where there is no mention of packing, forwarding, freight, insurance charges, taxes etc., such offers shall be treated as inclusive of all these expenses.

10. Opening and Evaluation of bids:

- The Purchaser will open all e-bid of technical cover first. After technical evaluation and publication of technical evaluation results, the financial cover will be opened only for those bidders who have successfully qualified in technical evaluation as per the schedule given in Invitation for e-Bids. The e- Bids shall be opened at the appointed time and location on the next working day.
- The bidders' names, bid modifications or withdrawals, bid prices, discounts, and the presence
 or absence of requisite Bid Security and such other details as the Purchaser, at its discretion,
 may consider appropriate, will be announced at the opening. Bid will be rejected for
- (1) Late bid submission
- (2) Failure/ late deposition of EMD/Bid Security within specified time mentioned.

The contents of the Bid Form and Price Schedule Form would however be announced only at the time of opening of Priced-bids in the case of two-bid system.

- **11. GST:** GST should be charge according to applicable rates.
- 12. EMD (Earnest Money deposit)/ Bid Security (BS): Bid security in shape of DD (Demand Draft) for INR 60,000/- (Rupees Sixty Thousand Only) and Tender Cost (Non-refundable) in the form of DD for INR 500/- (Rupees Five Hundreds Only) in favour of Director, NIT Rourkela Payable at Rourkela from any Scheduled Commercial Bank except Co-operative and Gramin bank. DD for the EMD (Earnest Money deposit)/Bid Security (BS) should remain valid for a period of 45 days beyond the bid validity period. EMD (Earnest Money deposit)/Bid Security (BS) of unsuccessful bidders should be return to them at the earliest and latest on or before the 30th days after the award of the contract. EMD (Earnest Money deposit)/Bid Security (BS) and Tender Cost should reach physically through speed post/ register post/courier, containing in an envelope & superscripted with subject, tender reference number addressing to Registrar, NIT Rourkela 769008, Odisha; on or before 18/12/2019 at 11:00 AM. For more detail See Annexure I. The Bid Security (BS) should be submitted in its original form. Copies shall not be accepted so as to reach this office on or before due date of submission of e-bid.

- 13. Performance Security: INR 1,50,000/-(Rupees One Lakh Fifty Thousands Only) in shape of Demand Draft (DD)/Bank Guarantee in favour of Director, NIT Rourkela and payable at Rourkela. And Performance security should remain valid for a period of 60 days beyond the date of completion of all contractual obligations of the suppliers including warranty obligation. And EMD (Earnest Money Deposit) amount of successful bidder will be return after the receipt of performance security in case of award of contract to successful bidder. For more detail See Annexure I.
- **14.** Please go through the enclosed "bid document" carefully for other bidding instructions.
- **15**. Please send your quotations through https://eprocure.gov.in/eprocure/app
- **16.** For technical details, you may contact

Prof. P. Saha

Professor in Charge – Glove-box Project Code: SR/19/CR/011

Department of Ceramic Engineering,

National Institute of Technology, Rourkela – 769 008

Phone: (0661) – 2462211

Mobile No. +917064031486 / 7008114012

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E-mail: sahap@nitrkl.ac.in / sahapartha29@gmail.com

NB: Please furnish your Dealership Certificate (must) and Proprietary Nature Certificate (If applicable)

BID DOCUMENT

1. Instructions to the bidders

- 1.1 Bids are invited on behalf of the Director, National Institute of Technology (NIT), Rourkela 769 008, Odisha, from the intending bidders for supply of the goods/stores/ equipments for the Institute as detailed in the enquiry letter.
- 1.2 The bidders should quote their offer/rates in BOQ in clear terms without ambiguity.
- 1.3 In case of any discrepancy between the rates in figures and that in words, the rate in words will be accepted as correct.
- 1.4 The last date for receipt of the bid is marked in the tender document.
- 1.5 The bids should be uploaded in https://eprocure.gov.in/eprocure/app Please follow the guidelines of the site.
- 1.6 If a prospective bidder requires any clarification in regard to the bidding documents, he may make a request the concerned officer or faculty member at least 15 days before the deadline for receipt of bids.
- 1.7 Bids received after the deadline of receipt indicated in para 1.4 above, shall not be taken in to consideration.
- 1.8 Each bidder shall submit only one bid. A bidder, who submits more than one bid, shall be disqualified and considered non-responsive.
- 1.9 (In respect of high value plant, machinery etc. of a complex and technical nature). The bids may be submitted in two parts, viz., technical bid and financial bid.
- 1.10 The bidder has to sign in full at all pages of the scanned part of the bidding document. No over-writing in those pages is acceptable.
- 1.11 Bidders registered with any of the following agencies/ bodies as per Public procurement policy for Micro & Small Enterprises (MSE) order 2012 are exempted categories from payment of EMD provided that the registration Certificate issued by any one of these below mentioned agencies must be valid as on close date of tender. Micro small or medium enterprises who have applied for registration or renewal of registration with any of these agencies/bodies but have not obtained the valid Certificate as on close date of tender are not eligible for exemption.
 - i) Khadi and Village Industries Commission (KVIC)
 - ii) National Small Industries Corporation (NSIC)
 - iii) Any other body specified by Ministry of MSME/GOI

2. Conditions of the bid

2.1 The rates quoted should preferably be net, inclusive of packing, forwarding, freight, Insurance and all other incidental charges excluding taxes. In case these charges are quoted extra in addition to the quoted rates, the amount thereof or Ad Valorem rate must be specified. Packing, forwarding, freight, entry tax etc., when quotes separately are reimbursable at actual. If external agencies are employed, their receipts must be enclosed with the invoice.

- 2.2 Duties and Taxes are to be quoted separately. Ad Valorem rates thereof should be clearly indicated with reference to the relevant Acts and Rules.
 - It may be noted that the Institute is availing custom duty exemption in terms of Notification No. 51/96 Customs dt. 23.07.1996, Notification No. 47/2017-Integrated Tax (Rate) dt. 14.11.2017 and Notification No. 45/2017 Integrated tax (Rate) dt. 14/11/2017 & Notification No. 45/2017- Central tax (Rate) dt. 14.11.2017, Notification No. 45/2017- Union Territory Tax (Rate) dt. 14/11/2017 [Vide DSIR, Ministry of Science and Technology, Government of India, Registration No.: TU/V/RG- CDE (227)/2016, dated: 13.11.2018]
- 2.3 The goods are required to be delivered at the indenting Department of NIT, Rourkela, and must be reached within **120 days** from the date of placement of the supply of order under the risk and arrangement of the bidder and offers with delivery beyond the above period shall be treated as unresponsive. In case the delivery time is higher, the same must be mentioned clearly in the guotation.
- 2.4 The bid should remain valid for a period of 90 days from the date of opening. In case your offer has a different validity period that should be clearly mentioned in the quotation.
- 2.5 Conditional discount, if any, offered by the bidder shall not be considered at the time of evaluation.
- 2.6 The goods offered should strictly conform to the specification and technical details mentioned in **Annexure I.**
- 2.7 The Institute may like to conduct pre-dispatch inspection of goods, where applicable.
- 2.8 Period of guarantee/warranty, where applicable, should be specified in the bid.
- 2.9 If the successful bidder, on receipt of the supply order, fails to execute the order within the stipulated period, in full or part, it will be open to the Director, NIT, Rourkela to recover liquidated damage from the firm at the rate of 1 percent of the value of undelivered goods per month or part thereof, subject to a maximum of 5 percent of the value of undelivered goods. Alternatively, it will also be opened to the Director, to arrange procurement of the required goods from any other source at the risk and expenses of the bidder.
- 2.10 The successful bidder may be required to execute a contract, where applicable.
- 2.11 The bidder has to furnish up to date GST and Income Tax Clearance Certificate along with the bid.
- 2.12 Payment (100 percent) will be made by Account Payee Cheque/Bank Draft, within 30 days from the date of receipt of the goods in good condition or receipt of the bill, commissioning of the equipment, where applicable, whichever is later/latest.
- 2.13 In case of Advance payment, the payment will be made on either in Foreign Demand Draft or Wire Transfer only. The proforma invoice copy need to be sent for advance payment.
- 2.14 In the event of any dispute arising out of the bid or from the resultant contract, the decision of the Director, NIT, Rourkela shall be final.
- 2.15 The bid document/resultant contract will be interpreted under Indian Laws.

Technical specification of Glovebox

or Lithium-ion hattery research	
osphere and used for Lithium-ion battery research. Specifications	
900-950 mm × 1250-1300 mm × 775-800 mm (H × L × D)	
500 500 mm	
Stainless Steel. 304 Grade/3 mm minimum thickness	
Argon atmosphere	
< 1 ppm H ₂ O and O ₂ (at complete pressure range).	
Glove box leak rate should be less than 0.05Vol %/h	
-10 mbar to +10 mbar or better	
Should be able to work in negative AND/OR positive pressure range	
Should include oil free based pressure relief valve mechanism	
Positive pressure regulation without vacuum pump should be possible.	
Optically clear polycarbonate, additional coating for chemical and scratch	
resistance is required.	
Inside surface should be brushed finish	
3-height adjustable, stainless steel shelves to be included and upgrade	
capable of sliding shelves	
Material of construction: Corrosion/chemical resistant Stainless steel	
shape: cylindrical with hinged doors,	
Dimensions: min. 150 mm (diameter) × min. 400 mm (length),	
Should include stainless steel sliding tray	
Should be located on the right side. O-ring should be provided.	
Material of construction: Corrosion/chemical resistant stainless steel.	
shape: cylindrical	
Internal dimensions: min. 390 mm (diameter) × min. 600 mm (length)	
Should include sliding tray stainless steel. Inside should be brushed	
finish, door lock easy to operate, spindle lock.	
Should be located on the right side. O-ring should be provided.	
Glove Ports should be polymer material.	
Two Polymer glove ports, minimum 220 mm diameter.	
Glove ports should be O ring sealed plus vacuum.	
Two pairs of butyl gloves to be included, 0.4 mm thickness. Two Internal port cover to be included.	
Positive Pressure regulation without vacuum pump should be possible.	
Necessary moisture and vapor traps for vacuum pump must be provided.	
Rotary vane pump with oil mist filter, oil re-circulation, automatic gas	
ballast control,17m³/h, dual stage.	
Automated Switch off of vacuum pump should be possible via the touch	
panel.	
Pump should be from renowned company like Edwards RV-12 (minimum	
10cfm). Must be supplied with all the required accessories like utragrade	
pump oil, inlet filter, O-ring, lubricants, etc.	
PLC Controlled with Color Touch panel for operation of all Glove box	
functions Including graphical tend of box pressure, oxygen and moisture	
levels	
Inline Solid state or any other internationally accepted technology based	
Moisture sensor, 0-500 ppm (± 10%), must be PLC controlled via touch	
panel.	
Upgradeable with solvent sensor 0-2000ppm in the circulation line, PLC	
controlled and operated by system touch screen.	
 	

Oxygen sensor	Inline solid state or any other internationally accepted technology based Oxygen sensor, 0-500 ppm (\pm 10%), must be PLC controlled, operated via system touch panel Accuracy: \pm 1 ppm
Gas purification	Single filter purifier and re-generable with an automatic/programmed control and should be fully integrated with a gas circulation blower. The details of the purification columns should be provided in the quotation. Purity should be less than 1ppm H ₂ O and O ₂ (at complete pressure range). Removable capacity, oxygen minimum 35 Liters or better and moisture minimum 1.3 Kg or better.
Purifier Materials	Copper Catalyst: minimum 5 Kg (BASF), Molecular Sieve: minimum 5.5 Kg (UOP)
Regeneration	Automatic PLC controlled regeneration. It should be possible to regenerate with Ar-H ₂ mixture (5-10% hydrogen). Regeneration interval should be mentioned in months.
Dust Filters	The glove box should have inlet/outlet 0.3 micron HEPA filters, class H13 or better, should be included.
Solvent absorbent unit	Solvent trap with charcoal loading. Minimum 5 Kg of absorber loading. External mounted in the gas circulation with bypass valves for easy Exchange of the charcoal. Operation modes: a) In line with the gas purification to clean the box atmosphere from solvent vapor.
	b) By pass, for exchange of the charcoal during the operation and gas circulation of the glove box.
Blower/Circulation speed	Minimum one Integrated Suitable Circulation Blower must be provided with minimum 85m³/hour speed. Minimum circulation time of 5 to 10min/hour is needed to maintain <1ppm. Automatic Blower speed reduction / increase based on O ₂ and H ₂ O level.
Heat Exchanger	Glove Box should be integrated with heat exchanger.
Software	The glove box should be controllable with independent and fully integrated programmatic logic control (PLC) with a touch panel interface. Graphical display of the box pressure, O ₂ and moisture levels should be available in color, in the touch panel interface. Remote monitoring of glove box parameters should be possible. The PLC should have the ability to send notifications and alerts regarding maintenance schedules, upcoming maintenance and box malfunctioning.
Power Supply	220-240V/ 50Hz × 4 receptacle × 15 Ampere
Feedthrough connectors (leak proof)	Glove box should have 4 leak proof DN 40 flanges; one should be with electrical feedthrough, one should be BNC and BANANA feedthrough four pin double sided. One feedthrough should also be fitted with BNC to dual alligator clips cable with minimum 2 meter length (must be supplied) to connect three-electrode cell, swagelok cells and 16 coin cells.
Flow Piping & Fittings	The flow piping and fittings should be made of stainless steel.
Valves	Main Purifier valve: Electro-pneumatic, KF-40 Control valves: Electromagnetic (solenoid) Antechamber valves: Manual KF-25 Valves Manual valves: Swagelok 3 way valve, Butterfly and Ball Valves

Others	Fluorescent/LED lamp should be front mounted.
	Fluorescent/LED lamp should have auto off facility.
	Automatic pressure regulation system without vacuum pump.
	Circulation speed should be linked to oxygen / moisture purity.
	Automatic activation of above features at user desired time.
	Should be able to set above functions at user set time to start and end.
	Should come with stand, height 1000 mm, with castors and machine feet.
	System should include additional water proof foot pedal.
	Glove boxes should have the pressure safety regulation function built-in.
	Automatic purge enabled by electropneumatic valves should be possible;
	max. purge rate 200 L/min
Warranty	The entire equipment should be covered under warranty, in terms of service and replacement, for a period of two years from the date of installation.
Accessories	1 no. Four decimal place analytical weighing balance (weighing capacity:
	minimum 220 g or above; readability 0.1 mg or better; pan size: minimum 91 mm) with automatic internal calibration and digital backlit
	display preferably from reputed company (Shimadzu or Mettler-Toledo).
	1 no. UHP Ar (99/999% purity) + 5% H_2 gas mixture cylinder with 47 Lt
	(W.C.)/7m ³
	3 no. UHP Ar (99.999% purity) gas cylinder with 47 Lt (W.C.)/7m ³
	1no. Stainless steel pressure regulator having SS-316 diaphragm, single
	stage, double gauge.
	Suitable Online UPS (10kVA) with isolation transformer is required

Other qualification criteria

- 5 numbers scanned copy of PO (not older than 3 years) of glovebox of similar or higher specification supplied within India (at least 1 from premier government institution like IIsc, IITs, NITs, IISERs, NISERs) must be provided.
- Detailed user list (at least 5) with the concerned person's valid contact details, in India where instrument is still in operational condition must be provided.
- List of minimum of 5 references using the glovebox for lithium-ion batteries is required.
- The ordered goods are required to be installed within 30 days of receipt of goods at this Institute.
 Installation should be carried out only by expert engineers of supplier/manufacturer. During the
 course of installation, necessary hands-on training on operation and maintenance of the glovebox
 and its auxiliary unit shall be imparted to Institute's Faculties/Engineers/Technicians. Installation and
 training must be free of cost.
- Prior installation conditions / site preparation / electrical connection required must be clearly mentioned in the quotation along with technical bidding documents.
- All parts like glove box, purifier, regeneration unit, sensors, blower, should be single manufacturer or if any of these is given by the 3rd party then warranty should be given by the manufacturer.
- Make and model number of each parts should be mentioned in the technical bid.
- Please quote with completer description of standard and required upgrades.
- ISO certificates for manufacturing of glove box and purifier should be attached.
- The supplier should have certified engineers/technicians available locally in Odisha/Kolkata/Ranchi or any nearby cities for providing immediate after sales service, support and maintenance.
- The satisfactory performance letter from end users' needs to be submitted.
- Just mentioning complied/meeting specifications or copy paste of technical qualification will not qualify the technical bid.

- All parts of the glove box should be covered with minimum two years warranty from the date of installation.
- Technical documents/brochure and proof of the specifications supplied should be attached.
- Hard copies of all the operational manuals related to the glovebox must be provided while supplying the system.

For goods manufactured in abroad

- 1. If the instrument is of foreign origin (i.e. manufactured in foreign country) then price must be quoted in foreign currency.
- 2. The price must be mentioned with clear demarcation at every stage such as instrument price, discount, packing and forwarding, transport, insurance whichever is applicable.
- 3. Bidder should mention the country of origin and the country from which goods will be finally shipped.
- 4. In case, an Indian agent is directly submitting a bid on behalf of its Principals, a copy of the Authorization Certificate issued by the Principals in favor of the Indian agent should be furnished along with a certified copy of the Agency Agreement between the foreign Principal and Indian agent. Both these certificates must be up-to-date.
- 5. A letter in the official letter head of the principal declaring the Indian agent as their authorized agency to bid must contain the official tender enquiry number as depicted in CPP portal must be included with the technical bid. (This must not be clubbed with Authorization Certificate).
- 6. The delivery up to NIT Rourkela is solely bidder's responsibility. The price must be quoted in foreign currency up to CIP Kolkata basis. NIT Rourkela will provide the custom duty concessional certificate for the clearance.

For goods manufactured in India

- 1. The price must be mentioned with clear demarcation at every stage such as instrument price, discount, GST calculated, packing and forwarding, transport, insurance whichever is applicable.
- 2. GST at applicable rates, which will be payable on the goods if the contract is awarded.
- 3. Bidders are requested to calculate GST @5% (in this regard necessary documents will be provided to the awardee bidder at the appropriate stage).
- 4. The delivery up to NIT Rourkela is solely bidder's responsibility. Therefore, charges for inland transportation, insurance and other local services required for delivering the goods at NIT Rourkela must be mentioned in the financial bid.

Earnest Money deposit/Bid Security (EMD/BS)

The Bidder must furnish, as part of its bid, a Bid Security (BS) for an amount as specified in the Invitation for e-procurement. In the case of foreign bidders, the BS shall be submitted either by the Principal or by the Indian agent and in the case of indigenous bidders; the BS shall be submitted by the manufacturer or their specifically authorized dealer/bidder.

The bid security may be forfeited:

- 1. If a Bidder withdraws or amends or impairs or derogates its bid during the period of bid validity specified by the Bidder on the Bid Form; or
- 2. In case of a successful Bidder, if the Bidder fails to furnish order acceptance within 21 days of the order or fails to sign the contract and/or fails to furnish Performance Security within 21 days from the date of Purchase order, or
- 3. In case selected L1 bidder (after qualifying the technical bidding) fails to comply or try to change the specification of the instrument after Purchase Order has been issued; or

- 4. In case selected L1 bidder (after qualifying the technical bidding) claims the inability to supply the instrument within quoted price. or
- 5. In case selected L1 bidder (after qualifying the technical bidding) declares their inability to supply the instrument. or
- 6. In case selected L1 bidder (after qualifying the technical bidding) impose any extra condition/cost which was not mentioned in their quotation with respect to technical specification and commercial terms and conditions, or
- 7. In case bidder impose any prior installation condition/ requirement of consumables during installation at NIT, involving extra cost at purchaser's side which is not mentioned in the quotation. or
- 8. In case of any violation of GFR17.

Delivery

Delivery of the Goods and performance of the Services shall be made by the Supplier in accordance with the time schedule specified by NIT Rourkela in the Purchase Order.

Performance Security (PS)

Within 21 days of receipt of the notification of award/PO, the Supplier shall furnish performance security in the amount specified in tender document, valid till 60 days after the standard warranty period.

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