

पूर्वी क्षेत्रीय विद्युत समिति/ Eastern Regional Power Committee  
14, गोल्फ क्लब रोड , टालीगंज/ 14, Golf Club Road, Tollygunge,  
कोलकाता - 700033/ Kolkata-700033

No. ERPC/Minor work/2023-24/ 11

Dated- 26<sup>th</sup> April 2023.

**Subject: Requesting for submission of Quotation for Steel work in ERPC Office building and Maintenance/ repair of Rolling shutter in garage-reg**

Sir,

Sealed quotation(s) are invited for installation of collapsible grill, fixed grill, maintenance of rolling shutter of garage and replacement of their parts in ERPC Office building as per 'Scope of Work' and Terms & Conditions provided in the tender documents.

This issues with the approval of Member Secretary, ERPC.

Encl: Tender Document.

*Accept*  
*26.4.23*

(Anup Das)

Executive Engineer (TS&C)

- ✓ 1. ERPC website,
2. ERPC Notice Board

केन्द्रीय विद्युत प्राधिकरण/ Central Electricity Authority  
पूर्वी क्षेत्रीय विद्युत समिति/ Eastern Regional Power Committee  
14 गोल्फ क्लब रोड, टॉलीगंज/14, Golf Club Road Tollygunge  
कोलकाता/Kolkata – 700033

**Tender/ ERPC Estb./2023-24/1**

**dated - 26.04.2023**

**Notice Inviting Tender**

**Tender for Steel work in ERPC Office building and Maintenance of Rolling shutter in garage.**

The office of Member Secretary, Eastern Regional power Committee (ERPC) invites Tender from the qualified firms/companies as per the below mentioned schedule: -

<b>SCHEDULE TO TENDER</b>		
<b>Sl No.</b>	<b>Activity Description</b>	<b>Schedule</b>
1	Tender Number	Tender/ ERPC Estb./2023-24/1
2	Start Date of Submission of Tender	10: 00 hrs. of 27.04.2023
3	Time and last date of submitting bid online	14: 00 hrs. of 08.05. 2023
4	Time and Date of Opening of qualifying Bid	15: 30 hrs. of 08.05.2023
5	Location for bid opening	Mini-conference room in 1 <sup>st</sup> Floor.
5	Estimated cost of the work	Rs 1,20,000/- (approximately)

Before quoting price, Vendor is advised to visit the site at any working day between 1100 hrs. and 1600 hrs. from 28.04.2023 to 07.05.2023.

The quotation shall be sent in a sealed cover superscribing “Steel work in ERPC Office building and Maintenance of Rolling shutter in garage” addressing to Member Secretary, ERPC, 14, Golf Club Road, Tollygunge, Kolkata-700033. They may send their representative during bid opening.

Total work shall have to be completed within 15 days after receipt of the Work Order by the vendor.

Bidders need to submit their relevant documents and credentials.

100% payment shall be released through online (NEFT mode) after satisfactory completion of work and final acceptance by ERPC authority.

This Office reserves the right to amend or withdraw any of the terms and conditions contained in the Tender Document or to reject any or all tenders without giving any notice or assigning any reason. The decision of the Member Secretary, ERPC in this regard shall be final and binding on all.

Any changes in the measurement or plan of work need to be approved by Executive Engineer (TS&C). He will be the nodal officer for this work.

### **Technical Specifications and Scope of Work-**

Technical specification for installation of collapsible grill, fixed grill, maintenance of office garage and replacement of some parts thereof is provided below-

#### **1. Collapsible Grill-**

<b>Description</b>	<b>At Entry gate of Office Building</b>	<b>Back side towards GRID India</b>
Heigh	7'	7'
Width	14'	9'3"
Steel Type	Galvanised Steel	Galvanised Steel

These shall be made from approved, renowned, faithful manufacturer of steel bars and shall be fabricated from the galvanized steel sections only.

The gates shall consist of double collapsible gate.

These shall consist of vertical double channels each 20 x 10 x 2 mm. at 10 cm. centre to centre braced with flat iron diagonals 20 x 5 mm and 15-inch-long repeater.

Top and bottom rails of T- iron 40 x 40 x 6 mm @ 3.5 kg/m with 40 mm diameter ball bearings in every fourth double channel at both side (below and top both).

Wherever collapsible gate is not provided within the opening and fixed along the outer wall surface, T- iron at the top may be replaced by flat iron 40 x 10 mm.

The collapsible gate shall be provided with necessary bolts and nuts, locking arrangement, stoppers, handles and locks etc. The gate shall open and close smoothly and easily.

Fixing - T- iron rails shall be fixed to the floor and to the Lintel at top by means of anchor bolts embedded in cement concrete of floor and lintel. The anchor bolts shall be placed approximately at 45 cm centres alternatively in the two flanges of the T- iron. The bottom runner (T- iron) shall be embedded in the floor and proper groove shall be formed along the runner for the purpose. The collapsible shutter shall be fixed at sides by fixing the end double channel with T -iron rails and also by hold- fasts bolted to the end double channel and fixed in masonry of the side walls on the other side. In case the collapsible shutter is not required to reach the lintel, beam or slab level, a Tee -section suitably designed shall be fixed at the top, embedded in masonry and provided with necessary clamps and roller arrangement at the top. All the adjoining work

damaged in fixing of gate shall be made good to match the existing work, without any extra cost.

Painting - All the members of the collapsible gate including T-iron shall be thoroughly cleaned off rust, scales, dust etc. and given a priming coat of approved galvanized steel primer conforming to IS 2074 before fixing them in position.

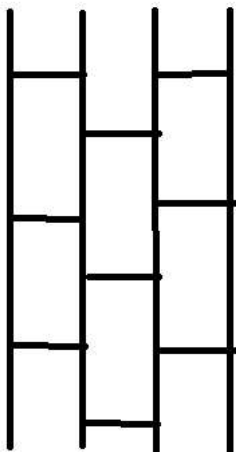
**Rate - The rate shall be quoted including the cost of materials and labour involved in all the operations described above in per square feet manner.**

**2. Fixed Grill**

Description	Near Security Desk in front (above Collapsible gate)	Back side near GRID India (Above Collapsible gate)	Fixed windows in bathrooms of ground floor (Total 6 in number)
Height	1'7"	1'2"	4'3"
Width	14'	9'3"	1'6"
Iron Rods Type	Square in cross section	Square in cross section	Square in cross section
Iron Rod for grill Measurement	12 mm X 12 mm	12 mm X 12 mm	12 mm X 12 mm
Outer Frame Measurement	25 mm X 5 mm	25 mm X 5 mm	25 mm X 5 mm
Type	Fixed	Fixed	Fixed
Steel Type	Galvanised Steel	Galvanised Steel	Galvanised Steel

These shall be made from approved, renowned, faithful manufacturer of steel bars and shall be fabricated from the galvanized steel sections only.

**Laying Out** - Below mentioned steel structure to be fabricated in all grill structure-



(This design is not as per the proper scale. It is for giving an idea about the structure). Steel tape shall be used for measurements.

Hot rolled steel sections for fabrication of steel windows and composite unit (above collapsible grill section) shall conform to IS 7452. Shapes weights and designations of hot rolled sections shall be as per IS 7452. Tolerance in thickness of the sections shall be + 0.2 mm. The fabricated steel windows and composite unit shall conform to IS 1038 with up-to-date amendments and shall be IS marked (IS 1038).

The steel windows and composite unit shall be according to the specified sizes and design. The size of doors and windows shall be calculated, to allow 1.25 cm clearance on all the four sides of opening to allow for easy fitting of steel windows and composite unit into opening. The actual sizes of steel windows and composite unit shall not vary by more than + 1.5 mm.

Welding: Welding shall generally be done by electric arc process as per IS 816 and IS 823. The electric arc method is usually adopted and is economical. Where electricity for public is not available generators shall be arranged by the vendor at his own cost unless otherwise specified by Executive Engineer (TS&C). Gas welding shall only be resorted to using oxyacetylene flame with specific approval of the Executive Engineer (TS&C). Gas welding shall not be permitted for structural steel work. Gas welding required heating of the members to be welded along with the welding rod and is likely to create temperature stresses in the welded members. Precautions shall therefore be taken to avoid distortion of the members due to these temperature stresses.

The work shall be done by a shop drawing which should clearly indicate various details of the joint to be welded, type of welds, shop and site welds as well as the types of electrodes to be used. Symbol for welding on plans and shops drawings shall be according to IS 813. As far as possible every effort shall be made to limit the welding that must be done after the structure is erected so as to avoid the improper welding that is likely to be done due to heights and difficult positions on scaffolding etc. The maximum diameter of electrodes for welding work shall be as per IS 814. Joint surfaces which are to be welded together shall be free from loose mill scale, rust, paint, grease, or other foreign matter, which adversely affect the quality of weld and workmanship.

Visual Inspection Test of welded joints to be done: When two opposite corners of the frame are cut, paint removed and inspected, the joint shall conform to the following:

- Welds should have been made all along the place of meeting the members and tack welding shall not be permitted.
- Welds should have been properly grounded and
- Complete cross section of the corner shall be checked up to see that the joint is completely solid and there are no cavities visible.

Finishing - All steel surfaces shall be thoroughly cleaned of rust, scale and dirt. Where so specified. The steel surface shall be treated for rust proofing by the hot dip, zinc spray or electro galvanizing process. A priming coat of approved steel primer zinc chromate primer conforming to IS 2074 shall be given. The

fabricated steel windows, Fixed part on collapsible grill be inspected in the factory and approved by the Executive Engineer (TS&C) before priming coat is applied. Final finishing coat shall be given to the windows and fixed parts after they are erected and fixed in final position.

Fixing - Steel windows and fixed parts shall be so stacked as to keep them in true shape without damage. They shall be fixed as described below. Opening may be flush or rebated as shown in the drawing. The opening may have rendered finish or a "fair faced" finish (i.e. without rendering as in case of marble or stone facing). Where openings are flush and with a rendered finish a clearance of 1.25 cm shall be provided between the steel frame and opening. In case of external masonry finish "fair faced" and with rebated jambs, a minimum 1.25 cm clearance between frame and opening shall be provided. Opening in steel work shall be so designed that the outer flange of the windows and fixed part frame section overlaps the steel surface by 10 mm. The sizes of Indian Standard windows and fixed part are designed for modular opening 1.25 cm larger all round than the doors, windows etc. This gap of 1.25 cm is for the purpose of fixing of doors, windows etc. In masonry opening, the gap is filled up with mastic cement and plaster after the door or windows is fixed in position. In the case of steel or timber modular opening, extra steel or timber fillets will be necessary to cover this gap of 1.25 cm.

Fixing in Masonry Openings –

- *Fixing with Lugs*

Windows and Fixed portion above grill unit, shall not be "built in" as the work proceeds but opening shall be left out and frames fitted afterwards so that the minimum specified clearance between opening and unit frame is left around. The size of the opening shall first be checked and cleared of obstruction, if any. The position of the unit and fixing holes shall be marked on the jamb. Necessary holes shall be made in the masonry and lugs not less than 10 cm long 15 x 3 mm size M.S flat fixed in cement concrete blocks 15 x 10 x 10 cm size of 1:3:6 mix (1 cement : 3 coarse sand:6 graded stone aggregate 20mm nominal size). The frames of units shall be set in the opening by using wooden wedges at the jamb, head and sill, (wedges shall preferably be placed near the points where a glazing bar meets the frames and be plumbed in position).

After, the frame shall be fixed with the lugs with 20 mm long and 6.3 mm dia. G.I. counter sunk machine screws and nuts. In case of flush opening which are rendered smooth, wedges shall be removed and gap between unit and the jambs shall be filled with cement mortar

In case of flush jamb with external "fair faced" finish the gap between the opening and frame shall be filled with mastic from inside till it oozed out on external face. The oozing mastic shall be cleaned and flush pointed. The internal gap shall be filled with mastic to about 1/3rd depth the rest with cement mortar.

In case of rebated jambs and jambs finished “fair faced” externally, the mastic shall be freely applied to the inside channel of frame, jamb and sill, so as to ensure a watertight joint. After the units is firmly fixed in position surplus mastic shall be cleaned and flush pointed.

- *Fixing with Screws and Plugs:*

In R. C. C. work where lugs cannot be embedded due to reinforcement bars etc. rawl plugs or other approved metallic fasteners may be fixed in proper position and frame fixed to them with 60 mm galvanized cross recessed head wood screws of designation 10.

- *Fixing in Steel Work Opening:*

Before placing the unit frame in position approved mastic shall be applied as specified above and a mild steel or hard wood fillet shall be provided around the frame to close the extra gap between opening and frame. The unit shall then be fixed to the opening with fixing clips or with nuts and bolts as shown in the drawings or as directed by the Executive Engineer (TS&C).

- *Fixing of Composite Units:*

The fixing procedure for composite units shall generally be as described above except that: Where large units shall be formed by coupling individual units together (with coupling sections), the mullions and transom shall be bedded in mastic to ensure water tightness. Mastic shall be applied liberally to the channels of the outside frame section before assembly and after coupling. All oozing out mastic shall be cut out neatly.

**Precautions** - Care shall be taken that steel windows, fixed portion etc. are not deformed/ damaged during subsequent constructions. Care shall be taken that scaffolding do not rest on the steel window frames or glazing bars. All fittings shall be protected, preferably with alkathene sheets so that these may not be damaged during execution of work.

All operation connected with welding and cutting equipment shall conform to the safety requirements given in IS 818 for safety requirements and Health provision in Electric and gas welding and cutting operations.

**Rate** - **The rate shall be quoted including the cost of materials and labour involved in all the operations described above in per square feet manner.**

**3. Maintenance/ and replacement work of Shutter in garage located in ERPC office building -**

There are four shutters in the garage in office that requires proper maintenance.

Checking/ replacement of following parts needs to be done -

- All lath and their interlocking curls, clips are required to be checked and maintained properly

- All reduction gears, need to be checked and proper lubricants required to be applied to them.
- All springs are required to be checked and properly maintained.
- All suspension shaft, concerned brackets, pulleys, ball bearings etc. are required to be checked and maintained.
- All guide channels, pockets, fixing cleats are required to be cleaned and maintained. Atleast 4 iron pockets are in very bad condition and need replacement.
- All Cover need to be checked and maintained.
- All lock plates with sliding bolts, handles and anchoring rods are required to be maintained. Atleast two lock plates are required to be replaced as their condition is very bad. These two Lock plates with sliding bolts, handles and anchoring rods shall be as per IS 6248.
- All Plugs and screws bolts etc. need to be checked and replaced if necessary.
- All fixing shall be done accurately in a workmen like manner that the operation of the shutter is easy and smooth.

**Rate may be quoted as under -**

**Price may be quoted for maintenance of each iron shutter.**

**Price may be quoted for each iron pocket replacement including labour.**

**Price may be quoted for each lock plate replacement including labour.**

In case of any additional work/ replacement work in the garage comes up during the maintenance work, Executive Engineer (TS&C) shall be intimated for the same and further approval for any addition work would be decided upon subsequently.

Freedom from Defects - All finished materials shall be well and cleanly rolled to the dimensions, sections and masses specified. The finished material shall be reasonably free from surface flaws; laminations; rough/ jagged and imperfect edges and all other harmful defects.

Minor surface defects may be removed by the manufacturer/supplier by grinding provided the thickness is not reduced locally by more than 4 percent below the minimum specified thickness. Reduction in thickness by grinding greater than 4 percent but not exceeding 7 percent may be made subject to mutual agreement between ERPC and manufacturer/supplier.

Electrodes- The electrodes required for metal arc welding shall be covered electrodes and shall conform to IS 814.

**Format for financial bid to be submitted to this office.**

Name of the Vendor -

<b>Sl. No</b>	<b>Description</b>	<b>Rate in Rs</b>	<b>Quantity</b>	<b>Total</b>
1	The rate for installation of collapsible grill including all like cost of materials, labour, fixing, finishing etc. in <b>per square feet</b> manner		163 sqft.	
2	The rate for installation of fixed grill including all like cost of materials, labour, fixing, finishing etc. in <b>per square feet</b> manner.		69 sqft.	
3	Rate for maintenance of shutter including all work for <b>each iron shutter</b>		4 no	
4	Rate for replacement of iron pocket including all work for <b>each iron pocket</b>		6 no	
5	Rate for replacement of lock plate including all work for <b>each lock plate.</b>		2 no	

-End-