

**DYCE-C-JHS-ENGINEERING/NORTH CENTRAL RLY  
TENDER DOCUMENT**

**Tender No:** DYCE-C-I-JHS-2023-30

**Closing Date/Time:** 30/11/2023 11:00

Dy.CE/C-I/JHS acting for and on behalf of The President of India invites E-Tenders against Tender No **DYCE-C-I-JHS-2023-30** Closing Date/Time 30/11/2023 11:00 Hrs. Bidders will be able to submit their original/revised bids upto closing date and time only. Manual offers are not allowed against this tender, and any such manual offer received shall be ignored.

**1. NIT HEADER**

|                                        |                                                                                                                      |                                                    |                   |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-------------------|
| <b>Name of Work</b>                    | <b>MAJOR UPGRADATION OF VIRANGANA LAKSHMIBAI JHANSI RAILWAY STATION OF JHANSI DIVISION OF NORTH CENTRAL RAILWAY.</b> |                                                    |                   |
| <b>Bidding type</b>                    | EPC [ Single Stage ]                                                                                                 |                                                    |                   |
| <b>Tender Type</b>                     | Open                                                                                                                 | <b>Bidding System</b>                              | Two Packet System |
| <b>Tender Closing Date Time</b>        | 30/11/2023 11:00                                                                                                     | <b>Date Time Of Uploading Tender</b>               | 26/10/2023 21:03  |
| <b>Pre-Bid Conference Required</b>     | Yes                                                                                                                  | <b>Pre-Bid Conference Date Time</b>                | 10/11/2023 11:00  |
| <b>2nd Pre-Bid Conference Required</b> | No                                                                                                                   | <b>2nd Pre-Bid Conference Date Time</b>            | Not Applicable    |
| <b>Advertised Value</b>                | 4417136533.43                                                                                                        | <b>Tendering Section</b>                           | RATE              |
| <b>Bidding Style</b>                   | Single Rate for Each Schedule                                                                                        | <b>Bidding Unit</b>                                |                   |
| <b>Earnest Money (Rs.)</b>             | 10000000.00                                                                                                          | <b>Validity of Offer ( Days)</b>                   | 120               |
| <b>Tender Doc. Cost (Rs.)</b>          | 0.00                                                                                                                 | <b>Period of Completion</b>                        | 60 Months         |
| <b>Contract Type</b>                   | Works                                                                                                                | <b>Contract Category</b>                           | Expenditure       |
| <b>Bidding Start Date</b>              | 16/11/2023                                                                                                           | <b>Are Joint Venture (JV) firms allowed to bid</b> | Yes               |
| <b>Ranking Order For Bids</b>          | Lowest to Highest                                                                                                    | <b>Expenditure Type</b>                            | Capital (Works)   |
| <b>Docs. Receipt Confirmation</b>      | Required                                                                                                             |                                                    |                   |

**2. SCHEDULE**

| S.No.                                                                    | Item Code                                                                                                                           | Item Qty | Qty Unit | Unit Rate | Basic Value   | Escl.(%) | Amount        | Bidding Unit        |
|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|----------|----------|-----------|---------------|----------|---------------|---------------------|
| <b>Schedule A-Engineering, Procurement and Construction(EPC) Tender.</b> |                                                                                                                                     |          |          |           |               |          | 4417136533.43 | Above/<br>Below/Par |
| 1                                                                        | Lump Sum                                                                                                                            |          |          |           | 4417136533.43 | AT Par   | 4417136533.43 |                     |
|                                                                          | <b>Description :- MAJOR UPGRADATION OF VIRANGANA LAKSHMIBAI JHANSI RAILWAY STATION OF JHANSI DIVISION OF NORTH CENTRAL RAILWAY.</b> |          |          |           |               |          |               |                     |

**3. ITEM BREAKUP**

|                        |
|------------------------|
| No item break up added |
|------------------------|

**4. ELIGIBILITY CONDITIONS**

|                    |                                                                                                                                                          |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Important :</b> | All documents uploaded and remarks / confirmation entered by the bidders against any eligibility condition shall be opened as part of technical bid only |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|

**Special Technical Criteria**

| S.No. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Confirmation Required | Remarks Allowed | Documents Uploading    |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------|------------------------|
| 1     | <p>RPF Clause 2.2.2.1- Technical Capacity-For demonstrating Technical Capacity and experience (the "Technical Capacity"), the Bidder shall, over the past 5 (five) Financial Years preceding the Bid Due Date, received payments for construction of Eligible Project(s) such that the amount is at least; (a) 60% (sixty percent) of Estimated Project Cost from One Eligible Project, OR, (b) 40% (forty percent) of Estimated Project Cost from each of the Two Eligible Projects OR, (c) 30% (thirty percent) of Estimated Project Cost from each of the Three Eligible Projects For the purpose of Technical Capacity, the projects shall qualify as Eligible Projects, the "Eligible Projects" if they meet both of the following criteria; (1) Projects where works contract are directly given to the Bidder by a Govt. Department; or by a Public listed company having average annual turnover of Rs.500 Crores and above in last 3 financial years excluding the current financial year, listed on National Stock Exchange or Bombay Stock Exchange, registered at least 5 years back from the date of submission of Bid by the Bidder to the Authority. AND, (2) Projects where the Bidder have received payments for not less than 75% (seventy-five) percent value of awarded project cost of such project as per the original agreement under the following categories: (i) Passenger terminals shall mean having a minimum passenger handling capacity of 5000 persons /day in railway stations, metro stations, airport terminals (with or without related airport infrastructure works), ports, integrated check posts, and bus terminals; or (ii) Social and Commercial infrastructure shall mean: (a) Commercial real estate project (such as educational institution, hospital, hotel, convention centre, mall/shopping complex, sports complex, office complex) at a single site with a minimum built up area of 15,000 (Fifteen thousand) square metres; or (b) Residential real estate project /residential township at a single site with a minimum built up area of 30,000 (Thirty thousand) square metres;</p> | No                    | No              | Allowed<br>(Mandatory) |

## Engineering Procurement for Major Upgradation of Jhansi Railway Station

### **APPROVED MAKES/ BRANDS**

Specification/brands names of materials to be used as per the scope of work are listed here. The efforts should be made by the agency to use indigenous products. The agency should also consider the availability of spares parts/components for maintenance purposes while proposing any brand/manufacture. The materials of any other brand/manufacture may be proposed for use by the agency in case the brands specified below are not available in the market and/or agency intends to use some other brand better than the brands mentioned in this list. The alternate brand can be used only after the approval of Engineer-in-Charge.

The sanitary fitting shall be of premium quality of approved brand make and manufacture as per approval of Engineer-in-Charge and approved makelist.

All the urinals, taps shall be sensor based.

| S. No | DESCRIPTION/ ITEM                                                                                                                           | Approved Makes / Brands  |                       |                    |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----------------------|--------------------|
| 1     | Ordinary Portland Cement / Pozzolona Cement                                                                                                 | ACC                      | Ultratech             | J. K Cement        |
|       |                                                                                                                                             | JSW                      | Birla Cement          |                    |
| 2     | White Cement                                                                                                                                | Birla White              | J.K. White            | Ultratech          |
|       |                                                                                                                                             | NCL BuildtechPvt.Ltd`    | ACC                   |                    |
| 3     | Ready Mix Concrete                                                                                                                          | ACC                      | Ultratech             | J. K Cement        |
|       |                                                                                                                                             | Lafarge                  | L&T                   | NDCON              |
|       |                                                                                                                                             | NCL BuildtechPvt.Ltd`    |                       |                    |
| 4     | Reinforcement Steel (HYSD TMT-Fe 500D)                                                                                                      | SAIL                     | Tata Steel            | RINL               |
|       |                                                                                                                                             | Shyam steel              | Jindal Panther        | APL Apollo/SG Mart |
|       |                                                                                                                                             |                          |                       |                    |
| 5     | Structural Steel / M.S. Tubes                                                                                                               | TATA                     | JSW Steel Ltd         | SAIL               |
|       |                                                                                                                                             | APL Apollo               | RINL                  | VPL india          |
|       |                                                                                                                                             | Jindal Steel & Power Ltd |                       |                    |
| 6     | Plasticizer, Super Plasticizer, Admixtures, Other construction chemicals                                                                    | BASF                     | Fosroc                |                    |
|       |                                                                                                                                             | Asian Paints Ltd.        | SIKA                  |                    |
|       |                                                                                                                                             | MYK Arment               | MC bauchemie          | Kerakoll           |
|       |                                                                                                                                             | Saint Gobain (Chryso)    | MYK Laticrete         |                    |
| 7     | Waterproofing Self Adhesive (HDPE) membrane, Waterproofing Compound (Crystalline), EPDM Waterproofing Membrane                              | DBS                      | Fosroc                | Berger             |
|       |                                                                                                                                             | Bulwork                  | Xchem                 | MYK                |
|       |                                                                                                                                             | Asian Paints Ltd.        | MC bauchemie          | Kerakoll           |
|       |                                                                                                                                             | BASF                     | MYK Laticrete         | Kryton             |
|       |                                                                                                                                             | Mepei                    | Ecmas                 | ACO                |
|       |                                                                                                                                             | Saint Gobain (Chryso)    | SIKA                  | MYK Arment         |
| 8     | Polyster Powder Coating Paints Repellent/Admixtures / Water Proofing compound/ Liquid membrane /Self adhesive membrane/other water proofing | Nerolac                  | Berger                | JSW                |
|       |                                                                                                                                             | Kerakoll                 | Asian Paints Ltd.     | MC bauchemie       |
|       |                                                                                                                                             | Roff                     | Saint Gobain (Chryso) | Mepei              |
| 9     | Rebarring Chemical                                                                                                                          | Hilti                    | 3M India              | Birla              |

### Engineering Procurement for Major Upgradation of Jhansi Railway Station

|    |                                                                |                            |                        |                 |
|----|----------------------------------------------------------------|----------------------------|------------------------|-----------------|
|    |                                                                | Fischer                    |                        |                 |
| 10 | Fire Sealant                                                   | Hilti                      | 3M India               | Birla           |
|    |                                                                | Fischer                    | Siderise               |                 |
| 11 | PU Elastomeric Membrane (spray applied for Deck Waterproofing) | BASF                       | Fosroc                 | SIKA            |
|    |                                                                | Sunanda                    | Keshun                 | Pidilite        |
|    |                                                                | DBS                        | MC bauchemie           | Mapei           |
| 12 | Weather Sealant                                                | G.E plastics               | Wacker                 | STP             |
|    |                                                                | Kerakoll                   | BASF                   | Dow corning     |
|    |                                                                |                            |                        |                 |
| 13 | Poly-Sulphide Sealant                                          | Fosroc                     | Wacker                 | SIKA            |
|    |                                                                | Thermamax                  | Laticrete              | BASF            |
|    |                                                                |                            |                        |                 |
| 14 | Glasswool Insulation                                           | UP Twiga                   | Poly Glass             | Ownscorning     |
|    |                                                                | Rockwool                   |                        |                 |
| 15 | Rock Wool Insulation                                           | Lloyds                     | Roxul Rockwool         | UP Twiga        |
|    |                                                                |                            |                        |                 |
| 16 | Swellable Bar                                                  | DBS                        | Fosroc                 | hayakawa        |
|    |                                                                |                            |                        |                 |
| 17 | Polycarbonate Sheet                                            | Danpal                     | Polygal Indian pvt ltd | DPI Daylighting |
|    |                                                                | Coxwell                    | GE plastics            |                 |
|    |                                                                | Lexan                      | Bayers                 |                 |
| 18 | Decking Steel Sheet                                            | TATA Steel                 | Bemo                   | JSW             |
|    |                                                                | APL Apollo                 | SAIL                   | VPL india       |
| 19 | Shuttering Ply                                                 | Magnus                     | Century                | Daya            |
|    |                                                                | Greenply                   | Luxe                   |                 |
| 20 | Formwork systems                                               | Peri                       | Doka                   | Symons          |
|    |                                                                |                            |                        |                 |
| 21 | Aluminium Shuttering                                           | Maini                      | S-Form                 | Kumkang         |
|    |                                                                | MFE Form Work              | Miven                  |                 |
| 22 | Parallel Threaded Couplers (Compliant to IS16172:2014)         | Dextra                     | Halfen Moment          | G-Tech          |
|    |                                                                |                            |                        |                 |
| 23 | Extruded Polysterene Board                                     | STP                        | Supreme                | DBS             |
|    |                                                                | Dow Building Solutions     |                        |                 |
| 24 | AAC Block                                                      | Aerocon                    | Buildtech              | Instablock      |
|    |                                                                | Ecogreen                   | J. K Lakshmi Cement    | Indo bhutan     |
|    |                                                                | Ferrouscrete               | BILT                   | Magicrete       |
|    |                                                                | Ultratech                  | Finecrete              |                 |
| 25 | AAC Mortar                                                     | Ferrouscrete               | Ultratech              | J. K Cement     |
|    |                                                                | Kerakoll                   |                        |                 |
| 26 | Moisture Resistant Board                                       | Saint Gobain               | Gyprox                 | USG Knauf       |
|    |                                                                | Lloyd Insulation India Ltd | Anacon                 | Armstrong       |
|    |                                                                | Merino                     | Aerolite               | Duro            |
| 27 | Veneered Particle Board                                        | Merino                     | Duro                   | Greenlam        |
|    |                                                                | Armstrong                  | Greenply               | luxe            |
|    |                                                                | Virgo                      | Daya                   | Century         |
|    |                                                                |                            |                        |                 |
| 28 | Laminated Particle Board                                       | Merino                     | Greenlam               | Century         |
|    |                                                                | Virgo                      | Jayna                  |                 |
|    |                                                                | Strawcture eco             |                        |                 |
|    |                                                                |                            |                        |                 |
| 29 | Laminates Block board/ Plywood                                 | Merino                     | Greenlam               | Century         |

### Engineering Procurement for Major Upgradation of Jhansi Railway Station

|                         |                                                      |                        |                        |                                   |
|-------------------------|------------------------------------------------------|------------------------|------------------------|-----------------------------------|
|                         |                                                      | Berger                 | Acro                   | Panache                           |
|                         |                                                      | JSW                    |                        |                                   |
| 45                      | Synthetic Enamel Paint                               | Akzonobel(Dulux)       | Asian (Apolite)        | Kansai Nerolac (Synthetic Enamel) |
|                         |                                                      | Berger: Luxol Hi gloss | ICI Dulux              | JSW                               |
| 46                      | Epoxy Paint                                          | Kansai Nerolac         | Akzonobel(Dulux)       | Fosroc                            |
|                         |                                                      | Jenson & Nicholson     | ICI Dulux              | Berger                            |
| 47                      | Epoxy Flooring                                       | Flowcrete              | BASF                   | Fosroc                            |
|                         |                                                      | Weber                  | Xchem                  | Durapro                           |
|                         |                                                      | MYK Arment             |                        |                                   |
| 48                      | Fire Paint/Fire Retardant Paint                      | Asian                  | Berger                 | Akzo Nobel coating India Ltd.     |
|                         |                                                      | Caboline               | Shalimar               |                                   |
| 49                      | Heat Resistant Paint                                 | Asian                  | Berger                 | PANACHE                           |
|                         |                                                      | ACRO                   |                        |                                   |
| 50                      | Heat Resistant Tiles                                 | Pavit                  | Sunheart               | Johnson                           |
|                         |                                                      | Somany                 | Simpolo                | Thermatek                         |
|                         |                                                      | Swastik                | Hindware               |                                   |
| 51                      | Gypsum Plaster                                       | Ferrous Crete          | BASF                   | Ultratech                         |
|                         |                                                      | Dudhi industries       | Western                |                                   |
| 52                      | GRC Jali                                             | Unistone               | Dalal Tiles Industries | Ecovision                         |
|                         |                                                      |                        |                        |                                   |
| 53                      | Welding Electrodes                                   | Advani                 | Oerlikon               | Modi                              |
|                         |                                                      | L & T                  |                        |                                   |
| 54                      | Stainless Steel Chair/ railing                       | Koncept                | Jindal Alloys          | Technorail                        |
|                         |                                                      | JSW                    | Dorma                  | Taiton                            |
| 55                      | Stainless Steel Hardware                             | Dorma                  | Hafele                 | Geze                              |
|                         |                                                      | Hettick                | Koncept                | Taiton                            |
|                         |                                                      | OZONE                  | Godrej                 |                                   |
| 56                      | Automatic Sliding Door                               | Dorma                  | Ozone                  | Assa Abloy                        |
|                         |                                                      | AIS windows            |                        |                                   |
|                         |                                                      | Hafele                 | Taiton                 | Hormann                           |
| 57                      | Metal roofing system (Metal)                         | APL Apollo             | Tata Blue Scope        | VPL india                         |
|                         |                                                      | kalzip                 | Kingspan               | JSW                               |
| 58                      | Metal roofing system (Aluminum)                      | Kalzip                 | Kingspan               | ALUFORM                           |
|                         |                                                      | Aludecor               | APL Apollo             | JSW                               |
|                         |                                                      | BEMO                   |                        |                                   |
| 59                      | Galvalume sheet for roofing cladding, sandwich panel | Lloyd                  | Kingspan               | APL Apollo                        |
|                         |                                                      | Jindal                 | APL Apollo             | Tata Bluescope Steel Ltd,         |
|                         |                                                      | JSW                    | KALZIP                 | VPL india                         |
| 60                      | Polycarbonate sheets and Gs sheets                   | Tata BlueScope         | DPI-Daylighting        | Coxwell                           |
|                         |                                                      | Tiger                  |                        |                                   |
| 61                      | GI Profile Sheet                                     | Tata                   | Lloyd                  | JSW                               |
|                         |                                                      | Jindal Essar           | APL Apollo             | VPL india                         |
| <b>2. FALSE CEILING</b> |                                                      |                        |                        |                                   |
| 1                       | False Ceiling – Gypsum                               | Aerolite               | India Gypsum           | Boral Lafarge                     |
|                         |                                                      | Armstrong              | USG knauf              | Western                           |

## Engineering Procurement for Major Upgradation of Jhansi Railway Station

|             |                                                                 |                     |                 |                   |
|-------------|-----------------------------------------------------------------|---------------------|-----------------|-------------------|
|             |                                                                 |                     |                 |                   |
| 11          | Building Signage                                                | Hindustan Signage   | Eaton           | Ergomax workspace |
|             |                                                                 | AYZO                | PR Graphics     | Prolite           |
|             |                                                                 | Galaxy Signage      | VVT             | 3M                |
| 12          | Epoxy Based Flooring                                            | Durapro             | Flowcrete       | Asian Paint       |
|             |                                                                 | Berger              |                 |                   |
| 4. GLAZINGS |                                                                 |                     |                 |                   |
| 1           | Anodised Aluminum Hardware (Heavy Duty) Aluminum                | KMC                 | Indalco         | Hindalco          |
|             |                                                                 | EBCO                | Jindal          | Alualpha          |
|             |                                                                 | Everite             | Godrej          | Hafele            |
| 2           | Aluminum Section                                                | Hinalco             | Kalco           | Bhoruka           |
|             |                                                                 | Jindal              | Indalco         |                   |
|             |                                                                 |                     |                 |                   |
| 3           | Structural Members – Windows, Glazing and Partitions            | Nalco               | Bhoruka         | AIS windows       |
|             |                                                                 | Saint Gobain        | kalco           | Glaverbal         |
| 4           | Glazing Structural/ Suspended / Skylight                        | Saint Gobain        | Pilkington      | Glaverbal         |
|             |                                                                 | Kalco               | Raico           | SARA              |
| 5           | Clear / Float / Frosted Glass                                   | Saint Gobain        | AIS             | Pilkington        |
|             |                                                                 | Emirates Glass Co   | Hafele          | Hifab             |
|             |                                                                 | MODI Guard          | Atul Industries | KMC               |
| 6           | Glass Spider Fittings                                           | Dorma               | Hafele          | Ozone             |
|             |                                                                 | VHU                 |                 |                   |
| 7           | Stainless Steel Railing , Accessories etc. in Grade S 304 & 316 | Dormakaba           | D-line          | Geze              |
|             |                                                                 | Koncept Solutions   | UPL             | JSW               |
|             |                                                                 | Ozone               | Jindal          | technorail        |
| 8           | Hermitically Sealed performance glass Toughened Glass           | Saint Gobain        | Guardian Glass  | AIS               |
|             |                                                                 | Modiguard           | Emirates Glass  | KMC Glass Co.     |
| 9           | Fire RatedVision Panels                                         | Pilkington          | Schott          | Ferilite          |
|             |                                                                 | Saint Gobain        | Glaverbel       |                   |
| 10          | Fire Rated Doors                                                | Pyrotech            | Navair          | Sukriti           |
|             |                                                                 | Kalpex              | kalco           | Bhawanifire       |
| 11          | Ceramic panel Cladding                                          | Hunter Douglas      | Neolith         | Terreal           |
|             |                                                                 | stonelam            | Unitile         |                   |
| 12          | Aluminum Louvers                                                | Hunter Douglas      | Kawneer         | kalco             |
|             |                                                                 | Vibrant Technik     | tostem          | Anakon            |
| 13          | Aluminium Composite Panels                                      | Virgo               | Alucobond       | Alstone           |
|             |                                                                 | Aludecor            | VIVA            | Alstrong          |
| 14          | G.I. Steel Door Frame                                           | SynergyThrislington | Navair          | Bhawani Fire      |
|             |                                                                 | Apl Apollo          | Jindal          | VPL india         |
| 15          | Friction Stay Hinges                                            | Dormakaba           | LG Sysmac       | Dorset            |
|             |                                                                 | Hormann             |                 |                   |
| 16          | EPDM Gasket                                                     | Hanu                | Anand           | Osaka /Alps       |
|             |                                                                 |                     |                 |                   |
| 17          | Glass Processor for making DGU / Toughing                       | Art N Glass         | GSC(Noida)      | Sejal             |
|             |                                                                 | ASAHI               | Gold Plus       | Kaenat Glass      |
| 18          | Mirror Glass                                                    | Atul                | MODI Guard      | Saint Gobain      |
|             |                                                                 | AIS                 |                 |                   |
| 19          | UPVC Doors ,Windows&UPVC Baffle Ceiling                         | Fenesta             | AIS Windows     | Europlast         |
|             |                                                                 | Aluplast            | NCL Veka        | Encraft.          |
|             |                                                                 | Prominance          |                 |                   |
| 20          | Poly Sulphide Sealant                                           | Wacker              | Dow Corning     | GE                |
|             |                                                                 |                     |                 |                   |

### Engineering Procurement for Major Upgradation of Jhansi Railway Station

|                    |                                                                                 |                         |                       |                  |
|--------------------|---------------------------------------------------------------------------------|-------------------------|-----------------------|------------------|
| 22                 | Silicone / Weather Sealant                                                      | Wacker                  | Dow Corning           | GE               |
|                    |                                                                                 |                         |                       |                  |
| 23                 | Aluminium Door & windows                                                        | Kalco                   | AIS                   | Jindal           |
|                    |                                                                                 | Tostem                  |                       |                  |
| 24                 | Pressed Steel Door Windows Frame                                                | APL Apollo              | Jindal                | India metal      |
| 25                 | Window blinds and shades/fire curtains& Blinds                                  | Hunter douglas          | deck                  | Window tech      |
| 26                 | Terracotta façade Solutions                                                     | Hunter Douglas          | Unitile               | unistone         |
| 27                 | Metal Claddings                                                                 | Hunter Douglas          | Kalzip                | Alstron          |
|                    |                                                                                 | durlum                  | Harsons Green         |                  |
| 28                 | Pergolas and louvres(wooden)                                                    | alstone                 | notion                | Reynoarch        |
| 29                 | WPC( Door frames, boards, Jali)                                                 | Alstone                 | Reynoarch             | Jayna            |
| <b>5. HARDWARE</b> |                                                                                 |                         |                       |                  |
| 1                  | Nuts / Bolts / Fastners / Screws                                                | GKW                     | Atul                  | Hilti            |
|                    |                                                                                 | Rawlplug                |                       |                  |
| 2                  | Door/Window Fittings                                                            | Godrej                  | Everite               | Dorset           |
|                    |                                                                                 | Hardwyn                 | ozone                 |                  |
| 3                  | Door Closer                                                                     | Dorma                   | Godrej                | Hettich          |
|                    |                                                                                 | Everite                 | Hardwyn               |                  |
| 4                  | Die Cast Patch Fittings                                                         | Dorma                   | Geze                  | AssaAbloy        |
|                    |                                                                                 | Hettich                 | Ozone                 |                  |
| 5                  | Fire Rated Doors                                                                | Iclean                  | saint-gobain          | Promat           |
|                    |                                                                                 | Navair                  | Sukriti               | Bhawani Fire     |
|                    |                                                                                 | Pyrotech                | Kalpex                | ASES Security    |
| 6                  | Floor Springs                                                                   | Dorma                   | Geze                  | Hettich          |
|                    |                                                                                 | Dorset                  | ozone                 | Becker           |
| 7                  | SS Mortise lock with one dead bolt and pair of SS handles steel grade SS 304    | Dorma                   | Godrej                | Hafele           |
|                    |                                                                                 | Hettich                 | taiton                | Ozone            |
|                    |                                                                                 | Becker                  |                       |                  |
| 8                  | SS Mortise latch & lock with six levers and pair of SS handles steelgrade SS304 | Dorma                   | Godrej                | Hafele           |
|                    |                                                                                 | taiton                  | Ozone                 | Hettich          |
|                    |                                                                                 | Becker                  |                       |                  |
| 9                  | SSTower bolt                                                                    | Dorma                   | Godrej                | Taiton           |
|                    |                                                                                 | Ozone                   | Hafele                | becker           |
| 10                 | SS Butt hinges with ballbearing grade SS304                                     | Dorma                   | Godrej                | Ingersoll Rand   |
|                    |                                                                                 | Koncept Steel Pvt. Ltd. | Becker                | Ozone            |
| 11                 | Stainless Steel Sliding Door bolts                                              | Becker                  | taiton                | Godrej           |
|                    |                                                                                 | Hettich                 | Ozone                 |                  |
| 12                 | Pull handle back to back of length 150mm of Steel Grade SS 304/316              | Taiton                  | Geze                  | Ozone            |
|                    |                                                                                 | Godrej                  | Dorma                 | Becker           |
| 13                 | Pull handle, single side of length 150mm of Steel Grade SS304                   | Godrej                  | Geze                  | Ozone            |
|                    |                                                                                 | Hettich                 | Becker                |                  |
| 14                 | Aluminium lever Handles                                                         | Hardima                 | Godrej                | Everite          |
|                    |                                                                                 | Taiton                  | ozone                 | Dorma            |
| 15                 | Modular railing/SS clamp/Fastener/SS dustbin/SS bench                           | Koncept solutions       | jindal                | Ozone            |
|                    |                                                                                 | Dorma                   | Continental Equipment | JSL Architecture |
|                    |                                                                                 | Technorail              | ozone                 |                  |
| 16                 | Lever handle in SS 304finish/Glass Spider                                       | Dorma                   | Hafele                | Godrej           |

### Engineering Procurement for Major Upgradation of Jhansi Railway Station

|                             |                                                          |                                    |                |                     |
|-----------------------------|----------------------------------------------------------|------------------------------------|----------------|---------------------|
|                             | Fittings/Automatic Sliding Door/Stainless Steel Hardware | Ozone                              | Taiton         | Becker              |
| 17                          | Tensile fabric with structure                            | Serge Ferrari                      | Ancon          | MehlerTex           |
|                             |                                                          | Taiyo Membrane                     |                |                     |
| 18                          | Magic Eye                                                | Dorma                              | Godrej         | Ingersoll Rand      |
|                             |                                                          | Ozone                              |                |                     |
| 6. HVAC /VENTILATION SYSTEM |                                                          |                                    |                |                     |
| 1                           | Chillers                                                 | York                               | Carrier        | Daikin              |
|                             |                                                          | Dunham Bush                        | Trane          |                     |
| 2                           | Chilled/ Condenser Pumps                                 | Kirloskar                          | Bell & Gossett | Wilo(Mather+ Platt) |
|                             |                                                          | Grundfos                           |                |                     |
| 3                           | CoolingTowers                                            | Mihir                              | Advance        | Paharpur            |
|                             |                                                          |                                    |                |                     |
| 4                           | HotWater Generator                                       | Rapid Cool                         | Emerald        | Sandhu              |
| 5                           | Air Handling Units(Eurovent / AHRI certified)            | VTs                                | SystemAir      | Stulz               |
|                             |                                                          | Flaktwood                          | Edgetech       | Zeco                |
| 6                           | Cooling Coil                                             | As per manufacture standard of AHU |                |                     |
| 7                           | Fan                                                      | Kruger / Comferi                   | Airflow        | Nikotra             |
|                             |                                                          | Fanair                             | Flaktwood      |                     |
| 8                           | SplitAC                                                  | Daikin                             | Hitachi        | Toshiba             |
|                             |                                                          | Samsung                            | LLOYd          |                     |
| 9                           | M.S. Pipes:-Any dia                                      | Tata                               | Jindal Hissar  | Sail                |
|                             |                                                          | Apl Apollo                         | VPL india      |                     |
| 10                          | ButterflyValves                                          | Advance                            | L&T            | Danfoss             |
|                             |                                                          | VTM                                | Axim           |                     |
| 11                          | Motorized ButterflyValve                                 | Belimo                             | Danfoss        | Siemens             |
|                             |                                                          | Oventrop                           |                |                     |
| 12                          | Pressure independent control valve (PICV)                | Belimo                             | Danfoss        | Siemens             |
|                             |                                                          | Oventrop                           |                |                     |
| 13                          | CheckValves                                              | Advance                            | L&T            | Danfoss             |
|                             |                                                          | VTM                                | Axim           |                     |
| 14                          | Ball valve                                               | Zoloto                             | Audco          | RC                  |
|                             |                                                          | VTM                                | Axim           |                     |
| 15                          | BalancingValves                                          | Danfoss                            | Advance        | Axin                |
|                             |                                                          | VTM                                |                |                     |
| 16                          | 2-way Modulating Valves with Thermostat                  | Belimo                             | Honeywell      | Siemens             |
| 17                          | 2-way on off valve with thermostat forFCU                | Belimo                             | Honeywell      | Siemens             |
| 18                          | Expansion Bellows                                        | Resistoflex                        | Easyflex       | Areaflex            |
|                             |                                                          | Dunlop                             | Axin           |                     |
| 19                          | Pot/Y-Strainers                                          | Sandhu                             | Rapid Cool     | Emerald             |
|                             |                                                          | Axin                               |                |                     |
| 20                          | Suction Guide with Strainer                              | Anergy                             | Armstrong      | Emerald             |
|                             |                                                          | Honeywell                          | Belimo         | Siemens             |
|                             |                                                          | Axin                               |                |                     |
| 21                          | RH Sensor                                                | Belimo                             | Honeywell      | Siemens             |
|                             |                                                          | Omnicon                            |                |                     |
| 22                          | Thermostat                                               | Danfoss                            | Belimo         | Honeywell           |

### Engineering Procurement for Major Upgradation of Jhansi Railway Station

|    |                                                        |                                |                |           |
|----|--------------------------------------------------------|--------------------------------|----------------|-----------|
|    |                                                        | Siemens                        | Omnicon        |           |
| 23 | Pressure Gauge(IndustrialType                          | Feibig                         | H. Guru        | Emerald   |
|    |                                                        | Axin                           |                |           |
| 24 | Differential PressureSwitch                            | Siemens                        | Rapid Contro   | Anergy    |
|    |                                                        | Sant                           |                |           |
| 25 | Thermometers                                           | Feibig                         | H.Guru         | Axin      |
|    |                                                        | Emerald                        |                |           |
| 26 | Closed ExpansionTank                                   | Anergy                         | Bell & Gossett | Sandhu    |
| 27 | Air Separator                                          | Anergy                         | Emerald        | Sandhu    |
| 28 | AutoAirVent                                            | Anergy                         | Rapid Cool     | Oventrop  |
| 29 | PlugValve                                              | Anergy                         | Rapid Cool     |           |
| 30 | G.I. Sheets                                            | Sail                           | Tata           | Jindal    |
|    |                                                        | Apl Apollo                     | VPL india      |           |
| 31 | MS. Sheets                                             | Hindalco                       | Balco          | NALCO     |
|    |                                                        | APL Apollo                     | VPL india      |           |
| 32 | Fire Dampers                                           | Systemair                      | Caryaire       | Ruskin    |
|    |                                                        | Greenheck                      | Fanair         |           |
| 33 | DamperActuator                                         | Belimo                         | Sinider        | Systemair |
|    |                                                        | fanair                         | Greenheck      |           |
| 34 | Grills/Diffusers                                       | Systemair                      | Caryaire       | Titus     |
|    |                                                        | Trox                           | Fanair         | Sachin    |
| 35 | FreshAir Louvers                                       | Systemair                      | Caryaire       | Titus     |
|    |                                                        | Trox                           | Fanair         | Sachin    |
| 36 | Resinbonded Glass Wool Insulation                      | UPTWIGA                        | Owens Corning  | Kimmco    |
|    |                                                        | K-flex                         |                |           |
| 37 | Protective Coating over insulation (Lag coating)       | CISBOND                        | Foster         | Idendan   |
|    |                                                        |                                |                |           |
| 38 | Resinbonded Glass Wool Insulation Insulation           | UPTWIGA                        | Owens Corning  | Kimmco    |
|    |                                                        | K-flex                         |                |           |
| 39 | InsulationAdhesive                                     | Weber                          | Foster         | CISBOND   |
|    |                                                        | Henkel                         |                |           |
| 40 | factory Made ducting                                   | Rolastar                       | Ductofab       | Asawa     |
|    |                                                        | Fanair                         | GP Spira       | Dynamic   |
|    |                                                        | Technofab                      | Ecoduct        | Ductro    |
| 41 | Filters (in Air- conditioning system) Ventilation Fans | Thermodyne                     | Purolator      | Fanair    |
|    |                                                        | Mackmark                       |                |           |
| 42 | Tube/VaneAxial                                         | Kruger                         | SystemAir      | Greenheck |
|    |                                                        | Fanair                         | Flaktwood      |           |
| 43 | Inline (Centrifugal)                                   | Kruger                         | SystemAir      | Caryaire  |
|    |                                                        | Ostberg                        | Fanair         | Flaktwood |
| 44 | Propeller Fans                                         | Kruger                         | GE             | Crompton  |
|    |                                                        | fanair                         |                |           |
| 45 | AirWasher/Scrubber                                     | Edgetech                       | Zeco           | SystemAir |
|    |                                                        | Fanair                         | Flaktwood      | VTS       |
|    |                                                        |                                |                |           |
| 46 | Fan                                                    | Kruger                         | Nikotra        | Comferi   |
|    |                                                        | fanair                         | Flaktwood      |           |
| 47 | Pump                                                   | Kirloskar                      | Beacon         | Wilo      |
| 48 | Filters                                                | As per manufacturer's standard |                |           |
| 49 | Heat Pipe                                              | HPT                            | SPC            | VTS       |
| 50 | Vibration Isolator                                     | Easyflex                       | Resistoflex    | Dunlop    |
| 51 | Anchor/Fastener                                        | Hilti                          | Fischer        | Gripple   |

### Engineering Procurement for Major Upgradation of Jhansi Railway Station

|                                   |                                  |                     |                   |                |
|-----------------------------------|----------------------------------|---------------------|-------------------|----------------|
|                                   |                                  | Rawlplug            |                   |                |
| 52                                | Duct Support                     | GPL                 | Gripple           | flex Zip- Clip |
|                                   |                                  | fischer             | Ductro            |                |
| 53                                | PUF Saddles                      | Lloyds              | Beardsell         | Malanpur       |
| 54                                | FCU link                         | ATS (CSI)           | Oventrop          | CIM            |
| 55                                | SoundAttenuator                  | Ruskin              | Systemair         | Trox           |
|                                   |                                  | Fanair              | Flaktwood         |                |
| 56                                | CO Sensor                        | Siemens             | Omicron           | Johnson        |
| 57                                | VFD                              | Danfoss             | ABB               | Siemens        |
|                                   |                                  | Fuji                |                   |                |
| 58                                | CO2 Sensor                       | Siemens             | Omicron           | Johnson        |
| 59                                | DemandVentilation System         | fanair              | asawa             |                |
| 60                                | Equipment                        | Conaire             | Glenstorm         | Tristar        |
| 61                                | MotorizedAssembly                | Conaire             | Glenstorm         | Tristar        |
| 62                                | Integrator                       | Conaire             | Glenstorm         | Tristar        |
| 63                                | High Density PVC Pipe            | Finolex             | Kissan            | Prince         |
|                                   |                                  | Supreme             |                   |                |
| 64                                |                                  |                     |                   |                |
| 65                                | Online Scale preventer           | Scale Guard         | Ristello          | Supremo        |
| 66                                |                                  |                     |                   |                |
| 67                                | VRF/VRVSyatem                    | Daikin              | Tosiba            | Samsung        |
|                                   |                                  | Mitsubishi Electric | Midea             |                |
| 68                                | Copper Refrigerant Pipe          | Camipro             | Rajco             | Mandev         |
| 69                                | ChilledWater Hi- Wall & Cassette | Midea               | Caryaire          | Edgetech       |
| 70                                | AHU / FCU Motor                  | ABB                 | Crompton          | Siemens        |
| 71                                | PACs                             | Stuluz              | Emerson           | Blue Box       |
| 72                                | Flexible Duct                    | UPTwiga             | Caryaire          | Atco           |
|                                   |                                  | Asawa               | Ductro            |                |
| 73                                | Aluminium Sheet                  | Nalco               | Hindalco          | Balco          |
| <b>7. PLUMBING &amp; SANITARY</b> |                                  |                     |                   |                |
| 1                                 | Sanitary Fittings & Accessories  | Parryware(Roca)     | Kohler            | Cera           |
|                                   |                                  | Euronics            | H&R johnson       | Simpolo        |
|                                   |                                  | Jaquar              | RAK               | toto           |
|                                   |                                  |                     |                   |                |
| 2                                 | Conceaed cistern                 | Hindware            | Kohler            | Jaquar         |
|                                   |                                  | Geberit             | Euronics          | toto           |
| 3                                 | WC connector                     | Geberit             | Kohler            | Viega          |
|                                   |                                  |                     |                   |                |
| 4                                 | Auto Urinal Flush System         | Duravit             | Kohler            | Euronics       |
|                                   |                                  | Grohe               | Sloan             |                |
| 5                                 | CPBrass Fittings                 | Jaquar              | Kohler            | Parryware      |
|                                   |                                  | Euronics            | Roca              |                |
|                                   |                                  |                     |                   |                |
| 6                                 | G.I. / M.S. Pipe                 | Tata                | Jindal (Hissar)   | Surya Prakash  |
|                                   |                                  | APL Apollo          | UPL               | VPL india      |
| 7                                 | G.I. Fittings                    | Unik                | KS                | Zoloto         |
|                                   |                                  | Surya               | Leader Valves ltd | R-Brand        |
|                                   |                                  | PRINCE              |                   |                |
| 8                                 | SS Pipes                         | Jindal              | Tata              | VIGA           |
|                                   |                                  | Alfa                |                   |                |
| 9                                 | HDPE Pipes                       | Saint Gobain        | Astral            | SFMC           |
|                                   |                                  | APL apollo          | Flowguard         | Prince         |
|                                   |                                  |                     |                   |                |

### Engineering Procurement for Major Upgradation of Jhansi Railway Station

|    |                                                         |                       |                     |                            |
|----|---------------------------------------------------------|-----------------------|---------------------|----------------------------|
| 10 | DI Pipes                                                | Electrosteel          | Jindal              | Tata Ductura               |
|    |                                                         | APL Apolo             |                     |                            |
| 11 | DI Fittings                                             | Kartar                | Electrosteel        | Kalinga                    |
| 12 | CI Fittings                                             | Neel                  | Kartar              | Electrosteel               |
| 13 | Float Valve                                             | IVC                   | Leader              | Zoloto                     |
|    |                                                         | KSB                   |                     |                            |
| 14 | UPVC Pipe and Fittings                                  | Astral                | Supreme             | Finolex                    |
|    |                                                         | SPMC                  | Wavin               | AKG                        |
|    |                                                         | Flowguardsystem       | KS                  | Prince                     |
|    |                                                         | Prince                | Vectus              | APL Apollo                 |
| 15 | PVC Pipe & Fittings                                     | AKG                   | Supreme             | Finolex                    |
|    |                                                         | SFMC                  | Surya Prakash       | Vectus                     |
|    |                                                         | Prince                | Wavin               | APL Apollo                 |
| 16 | CPVC Pipes & Fittings                                   | AKG                   | Astral              | Supreme                    |
|    |                                                         | Surya Prakash         | Prince              | Vectus                     |
|    |                                                         | Finolex               | APL Apollo          |                            |
| 17 | Centrifugally Cast (Spun) Iron Pipes & Fittings         | NECO                  | SKF                 | Electrosteel               |
|    |                                                         | APL Apolo             | BIC                 | RPMF                       |
| 18 | Centrifugally Cast (Spun) Iron (Class LA) Pipes         | NECO                  | Electro Steel       | TATA                       |
|    |                                                         | BIC                   | RPMF                |                            |
| 19 | Centrifugally Cast (Spun) Ductile Iron Pipes & Fittings | Electro Steel         | Jindal (Hissar)     | Kalinga                    |
|    |                                                         | AKG                   |                     |                            |
| 20 | C.I. Manhole covers, Frames & GI Gratings               | NECO                  | RIF                 | BIC                        |
|    |                                                         | SKF                   | Jain Spun Pipe Co.  | Electro Steel Castings LTD |
| 21 | SFRC Manhole covers & gratings                          | KK                    | Dudhi               | Pragati                    |
|    |                                                         | T-CON                 | RPMF                |                            |
| 22 | RCC manhole Covers & Frames                             | KK manhole            | Grating Co. Pvt Ltd |                            |
|    |                                                         | Himalya               |                     |                            |
| 23 | D.I. & FRP Manhole Covers & Frames                      | Neco,                 | Foundry Agra        | Kartar                     |
|    |                                                         | RPMF                  | Dudhi Industries    | Goyal iron                 |
| 24 | Gun Metal Valves, Globes                                | Sant                  | Castle              | Zoloto                     |
| 25 | NRV- Ball type - Sewage application                     | Danfoss               | ZALOTOAUDCO         |                            |
| 26 | Bellow Type, Pressure Reducing Valve                    | CIM                   | Danfoss             | Honey well                 |
| 27 | Floor Traps                                             | Jayana                | Chilly              | Nirali                     |
| 28 | Water Meter                                             | Prima                 | Zoloto              | Leader                     |
|    |                                                         | Capstan               |                     |                            |
| 29 | Brass Stop & Bib Cock                                   | Zoloto                | Sant                | L&K                        |
|    |                                                         | Leader                | Astral              | Euronics                   |
| 30 | Non Return Valve (Check valve) 1/2" to 1 1/4"           | Zoloto                | Sant                | Leader                     |
|    |                                                         | Kartar                |                     |                            |
| 31 | Brass Ferrules                                          | Dhawan Sanitary Udyog | Kalsi               | Annapurna                  |
|    |                                                         |                       |                     |                            |
| 32 | Polythylene water storage tank                          | Sintex                | Polycon             | SPL                        |
|    |                                                         | Vectus                |                     |                            |
| 33 | Insulation hot water pipes                              | Kaiflex               | Armaflex            | Careflex                   |
|    |                                                         | Lloyd                 |                     |                            |
| 34 | Insulation external/exposed hot water pipe              | Kaiflex               | Armaflex            | Careflex                   |
|    |                                                         | Lloyd                 |                     |                            |
| 35 | Pipe protection for external water supply pipes         | Pypkote               | Armaflex            | Makpolykote                |