

# TRANSMISSION TOWERS DIVISION





Designing services for power lines. Tower Load Testings EPC Line construction

Nuts and Bolts Substations and cross arms Angles Accessories

Steel Tubular Poles Solar Poles

Conductors Insulators Transformers

Steel bridges Gratings Handrails Cable Management System Bulk material handling

**Project Exports** 



# Inside FACTORY VIEW













## Mahabir 200 million USD

6th generation family run company and flagship entity of the Maskara family Group. Among

# the largest tower Manufacturers In India.

Apart from manufacturing steel towers and poles we have bought shares in other units to

# evolve our value chain

to produce nuts and bolts, fasteners, conductors, insulators, prefabricate dbuildings and other accessories. We have partnered construction companies in Africa to emerge as a leading EPC player in the tower business.









Reliable manufacturer of

# transmission towers,

nuts and bolts, MS & HT Angle conductors, insulators and transformers

among an exhaustive product basket.

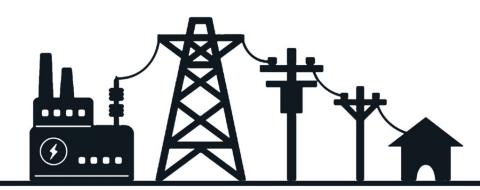
## In-House Load Testing, and R&D Center,

with design capabilities of upto 1200 KV towers.

transmission solutions

solutions provider.

# POWER HOUSE



## **Our status:**

Mahabir Industries is among the largest tower manufacturers in India and also among the top 10 in the world. The company exports to more than 25+ countries across the globe.

## Our background:

Mahabir (established in 1851) is a flagship company of the Maskara Group. It has over 160 years of experience in manufacturing various value-added Steel products such as Telecom Towers, PSC and Tubular Poles, Conductors, Insulators, ERW Tubes, Scaffoldings. Gratings and Cable Trays.

## **Our quality:**

Mahabir's commitment towards product quality has made it the manufacturing partner of choice to the Powergridworld's largest transmission utility and also CORE- Indian Railway electrification wing. The conductor manufactured by us if laid in straight lines can transmit electricity from the north pole to the south pole three parallel transmission lines.

# Consider us:

With in-house manufacturing and investments spanning across various other plants, we are able to maintain quality.

# Steel Billets & blooms as input blooms as input



Manufacture MS & HT angles

## **Our plants:**

Mahabir has state-of-the-art Engineering, Fabrication and Galvanizing facilities inhouse, within the Company's Powergrid approvedplants- Mahabir has state-of-theart Designing, Engineering, Fabrication Galvanizing facilities.

## Our health and safety measures:

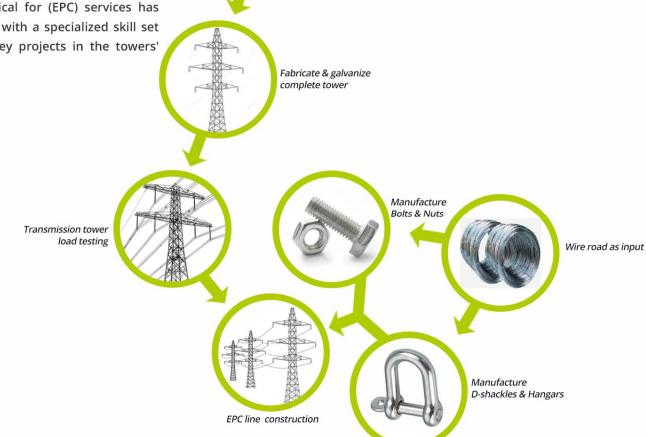
Health and safety is one of the priority areas at Mahabir. We are ISO 14001 and OHSAS 18001 certified.

## **Our In-house Tower Load Testing Station:**

Mahabir has the largest Tower & Monopole Load Testing Station in India. The facility is designed to test all kinds of lattice towers, monopoles & guyed towers with world class technical parameters.

## **Our EPC business:**

A dedicated vertical for (EPC) services has been established with a specialized skill set to execute turnkey projects in the towers' domestic market.



# Power packed ("")

As a family run business we have inhouse fabrication capacity of 45000 ton per annum and our partner plants can manufacture 75000 tons per annum. When you join hands with us you are no longer clients, but partners.

# Consider us:

At Mahabir we are present along the entire value chain by designing, manufacturing and prototyping each component. We don't view the tower business as a product but as a service.

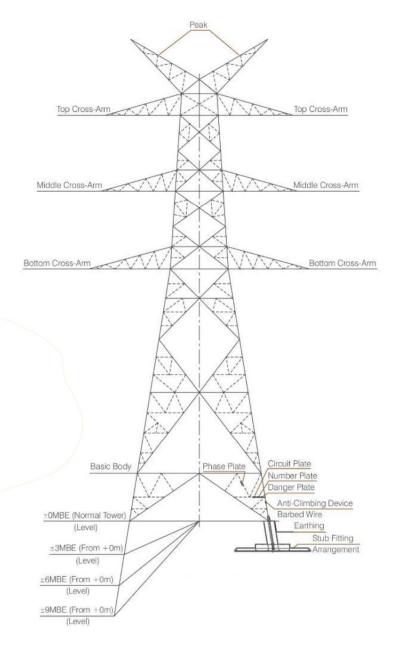
# Did you kno的?

Within each transmission line, there are 15-20 structures including basic bodies, extensions and stubbs.

Each structure can have upto 800 unique parts, all of which are produced, assembled for proto checking and packed perfectly before shipping from Mahabir.







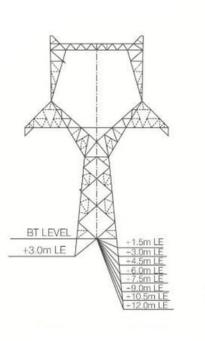
**Typical Tower Structure** 

# Power-full Range of towers

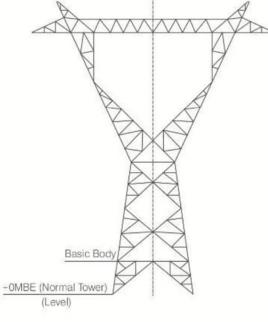
Would you rather not prefer a family owned company which is specialized in its response to each customer or a manufacturer treats each order as yet another project?

With us you start as client but execute as partners





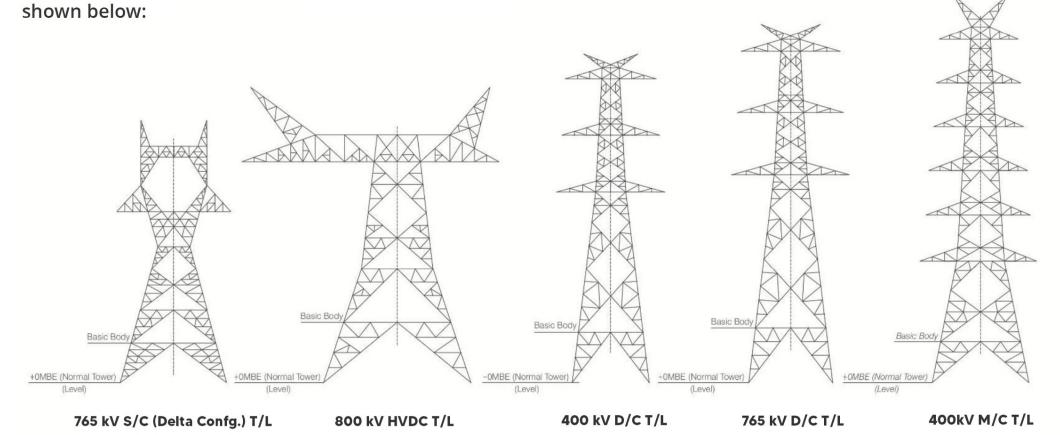




765 kV S/C (Hor. Confg.) T/L

# Consider us:

At Mahabir we offer our customers a full-range-cum-diverse product basket ranging from 66kV to 800kV Towers (Single Circuit, Double Circuit, Multi-Circuit Towers suitable for Twin, Quad and Hex Conductor configurations). Some typical tower configurations produced at Mahabir are





Would you rather work with a company which cares about the community it operates in or one that works without thought?

# Facility highlights at Mahabir

- Owns Powergrid approved manufacturing plants
   Installed capacity of over 1,40,000 MT per annum
- In-house galvanizing plants upto 12 m length, 2.5 m width and 3 m depth
- 15 Angle and Plate CNC lines
- Zero machine downtime with 4 units back-up
- Tower Load Testing Station
- Nut bolt capacity of 500 MT per month i.e. 6000 MT per year
- In-house MS & HT Angle Rolling (upto 200 X 200 X 25) that guarantee all time availability

- Machinery and latest technology of manufacture is imported from Italy and China
- In-house Engineering and Drawing department to provide Optimized Design solutions for all client requirements

# Did you kno的?

Mahabir has a much higher output almost by 15% per month than competitors.

We have developed our own ERP system system for constant monitoring of its product batches.

## Consider us:

At Mahabir, we are your one stop shop solution for procuring steel towers, cables, insulators and transformers. With inhouse expansions via our other investments, you needn't look elsewhere.



Would you rather partner with a company that takes care of a product from inception to delivery or one that simply produces and forgets?

# Consider us:

## **Design and Engineering**

We have a state of art in-house design facility with a strong team of Design Engineers and Draughtsmen who continuously develop innovative, construction friendly and cost effective designs. The company is equipped with the latest softwares like PLS Tower, PLS Pole, Tower- Cad & Auto-CAD is equipped to provide computerized engineering solutions, 3D analysis and design. The company has also designed various types of towers ranging from 33 kv to 500

kV HVDC and various types of monopoles. Major achievements include the designing and testing of 500 KV S/C and D/C towers for South American client Tower designed and tested successfully are:

- » Mozambique- 132 kV D/C towers
- » Kenya 500 kV, 220 KV D/C towers
- » Botswana 500 kV S/C, 500 KV D/C towers
- » South Africa 750 kV S/C Portal suspension tower

# **Packing and Containerization**

At Mahabir, containerization is the manifestation of the company's ethos to care till the last mile for its valuable customers. Utmost care is taken to ensure all tower parts reach the end customer in sturdy sea-worthy packing for ease of handling during transportation from factory to installation site. All our plants are geared up to do single tower bundling and factory stuffing of containers for ensuring safe delivery to site.

Proper lashing, choking and fumigation are done to ensure international norms of packaging. Services of professional logistics enable best shipping lines and fast delivery to our international customers. A dedicated fleet of transporters are engaged for transportation of towers to our domestic customers.











# Ower power!

Would you prefer multiple companies to get your job done or a one-stop partner who provides you a turnkey solution?

# Consider us:

At Mahabir, the motto is to be a leader in the Transmission Lines business and provide a one – stop solution to its brand-enhancing customers. A dedicated vertical of company has been established for EPC line construction with a specialized skill set to execute turnkey Transmission projects up to 800 kV



## **Project Management & Execution**

After achieving leadership and manufacturing excellence in Towers, Fasteners and its accessories, the company is currently involved in inculcating superior project management and execution expertise in its EPC business for clients and providing value-added turnkey solutions.

## Resources

A perfect blend of critical key resources—people, equipment and a competitive network of service providers has enabled the Company to establish itself in the market.

**People:** The Company has a highly experienced and capable team of project management and project execution. It comprises project managers, surveyors, field engineers and skilled technicians. They are well experienced in their respective fields and well-versed, both with the conventional as well as advanced methods, of project execution.

**Equipment:** The Company possesses sophisticated tension-stringing machines, winches and other heavy duty construction equipment which give it a distinct edge to complete projects within a stringent time-frame.

**Network of service providers:** The Company has a well established and strong network of service providers in India.













# Registration & Approvals

- Bureau of Indian Standards (ISI)
- ISO 9001, ISO 14001, ISO 18001
- Power Grid Corporation of India Limited (PGCIL)
- Egyptian Electricity Transmission Company (EETC)
- Bhutan Power Corporation
- Major State Electricity Boards of India (SEBs)
- Budcentral Certificate of Conformity
- Kenya Transmission Company (KETRACO)
- Transmission Company of Nigeria (TCN)
- National Grid Corporation of Philippines (NGCP)
- Canadian Welding Bureau (CWB)
- CE (Europe)

- Ministry of Railways (RDSO)
- Damodar Valley Corporation
- Transmission Corporation of Andhra Pradesh Limited (APTRANSCO)
- Odisha Power Transmission Corporation Limited (OPTCL)
- The Karnataka Power Transmission Corporation Limited (KPTCL)
- Saudi Electric Company
- The Jordanian Electric Power Company Ltd.,
- RETIE, Colombia
- UKSEPRO





#### Central Organisation for Railway Electrification 1-Nawab Yusuf Road, Civil Lines, Allahabad-211001 Fax No-0532-2408826, www.core.railnet.gov.in

By Registered/Speed

No. ELCORE/MP (Steel)//Mahabir

Date: 04.07.2018

#### M/s Mahabir Industries & Allied Works Pvt Ltd Barauni Industrial Area, PO-Tilrath Begusarai-851122 (Bihar)

Sub: Extension of vendor approval for manufacture & supply of fabricated and galvanized small parts steel (SPS) for OHE & TSS.

Ref. (i) Your letter No. Nil dtd 20.06.2018 .

(ii) This office letter of even no Nil dtd 01.01.2018 &16.02.2018.

Reference above, extension of approval to your works at Barauni Industrial Area, PO-Tilrath Begusarai-851122 (Bihar) for manufacturing and supply of following items is hereby granted

S.N.	Item	RDSO Drawing No.
1.	Approved vendor for fabricated & galvanized small parts steel (SPS) for OHE & TSS	IS: 2062:2011(Latest) Grade-E 250 (Fe 410 W) Quality 'A' (latest), IS: 808/1989 (latest) & ETI/OHE/13 (4/84) with latest amendments & relevant RDSO drawing:

#### This approval shall be valid from 01.07.2018 to 31.12.2018.

2. The terms & condition are as per annexure-1 and shall be binding on you. In case of any deviations found, the approval can be cancelled by CORE without assigning any further reason. It shall be necessary for you to remain in touch with CORE website for CORE policy of vendor approval for any new conditions or changes, which shall also be binding on you.

This has approval of competent authority.

Please acknowledge receipt of the letter.

DA: Anneexure-1, QPR format

124.07.18 (Upendra Kumar) Dy Chief Electrical Engineer (MP)
For CAO/ CORE/Allahabad

#### SAVE ENERGY FOR BENEFIT OF SELF AND NATION "स्वहित एवं राष्ट्रहित में ऊर्जा बचाएँ "



#### Bihar State Electricity Board : Patna (Department of Transmission)

1795 / EB. 27/Trans/Pur-1193/01

Patna Dated ... 06-10-09

From. To

T.T. Jha.

Chief Engineer (Trans.)

M/s Magadh Micro Towers & Transmission Pvt. Ltd. "Veena Nivas., Dadiji Sweet Lane, Boring Road, Patna - 800 001

Sub: Procurement of towers & Sub station structures from M/s Mahabir Industries & Allied Works (P) Ltd,

Sir,

Your request for procurement of towers & Sub station structures against P.O. No. 07 dated 29.08.09 and P.O. No. 18 dated 24.07.09 from M/s Mahabir Industries & Allied Works (P) Ltd, located at Tilrath in Begusarai has been approved

You are allowed to procure these materials from M/s Mahabir Industries & Allied Works (P) Ltd subject to successful inspection and pre despatch clearance by

> Yours faithfully (T. T. Jha) 0/2007

Chief Engineer (Trans.)

पावर ब्रिड कारपोरेशन ऑफ इंडिया लिमिटेड



#### POWER GRID CORPORATION OF INDIA LIMITED पावरिवाड

कचीय कार्यालय : "सीवामिनी" प्लाट सं 2 सैक्टर-29 गुक्तीय-122.001 इरियाण क्षेत्र : 287/200 - 710, किस : 257/750 257/761 तथ पेट्टीक्ट Corporate Office : "Saudamin" Plet No. 2. Sector-29, Gurgan-122.001. Heryana 761 : 257/700 - 719 Fax : 257/750 : 257/751 Gran : NA/GSRD:

Ref: C/OA&I/VA/Mahabir

Date: 11.09.2012

211. Okhla Industrial Estate. Phase-III New Delhi

Kind Attention.: Shri S. Ravishankar , Manager(QA&I)

Subject: Approval of Mahabir Industries and Allied Works Pvt. Ltd. for supply of 200 MT Galvanized Lattice and pipe type Sub-station structures for 220 kV portion of 400 kV Sub-station Projects

Based on the documents submitted by you and assessment of the works of Mahabir Industries and Allied Works Pvt. Ltd. on 14.08.12 by POWERGRID, we hereby convey our acceptance of Mahabir Industries and Allied Works Pvt. Ltd., Baruni Industrial Area, Tilrath, Begusarai, Bihar for supply of Galvanized Lattice and pipe type Sub-station structures for 220 kV portion of 400 kV Substation Projects of POWERGRID with initial quantity of 200 MT maximum. Further approval for up-gradation shall be considered based upon performance and quality...

However, before undertaking fabrication for POWERGRID Projects, following points are to be

- 1) Mahabir Industries shall submit the MQP & get it approved from POWERGRID for Lattice &
- pipe type sub-station structures.

  2) Mahabir Industries shall procure Raw materials from POWERGID approved sources only
- 3) In case any welding job involved, Mababir Industries shall obtain approval of POWERGRID for WPS as per ASME Section IX and qualify the welders accordingly.

Please ensure that all items shall meet the requirement of POWERGRID technical specification, approved Drawing/Data sheet of the specific contract. If, at any point, any abnormality is noticed in this regard, we reserve the right to withdraw this approval with immediate effect.

23/09/12

(Subhankar Das) DGM ( OA & D

CC: 1)\_Mahabir Industries and Allied Works Pvt. Ltd., Baruni Industrial Area, Tilrath, Begusarai, Bihar-851122

2) DGM, IO, Kolkata

# Will power

Would you rather partner with a company which has repeatedly won the trust of every single customer or one that looks for short-term gains?

# Consider us:

At Mahabir, we believe that the customer's project is OUR project and we are always ready to go the extra-mile to ensure we become the partner of choice to every buyer. Our customers and partner endorsements speak for themselves.



# Man Power!

Would you rather select a company that has resident intellectual capital or one that outsources most of its research and knowledge requirements to independent consultants?





# **Barcoding System**

Mahabir has introduced a barcoding facility for tower supply for the first time in India. Our ultimate goal is to minimize the pain points of customers pertaining to material management and planning at all locations, which ensures 10096 receipt of materials as delivered. Key features of barcoding system have been listed below:



- •Real time information sharing on materials supplied
- •Consolidated information sharing on materials supplied
- •Easy access to information pertaining to materials supplied
- Online information sharing
- •No hardware or software requirement at site
- •Hassle free joint verification can be carried out

## **Benefits to customers:**

- •Ensuring Zero shortage of materials supplied and received at site
- •Hassle free joint verification can be carried out
- •Efficient materials management (sorting, bundling and storage) at site.
- Minimum time required as compared to physical joint verification
- Ensuring efficient material handling and tracking from delivery to erection of towers.







# Trade Shows

An excellent time to re-connect with our clients and discuss new opportunities at a few of the leading trade shows worldwide such as Dubai Electricity, Electronama, and other shows organized by EEPC India.



# **Letter of**Recommendation

We are renowned for the quality of our work, professionalism, credibility & the extra effort we put into all our projects. In return, we have been acknowledged & rewarded with a long list of clients, who admire our work ethics and our end products.



#### To Whom It May Concern,

This serves to confirm that MAHABIR INDUSTRIES has successfully completed the supply of some 300 Tons of Steel Work for ABB South Africa Pty (Ltd) for its Isang's Ranch, Sub Station Project in Botswans.

#### We confirm the following:

- Grade of Steel Provided by MAHABIR INDUSTRIES meets the 350WA Standard Requirements.
- Galvanizing, as done by MAHABIR INDUSTRIES meets the SANS Specification 121/2011
   ISO 1461/2009 Requirements.
- Delivery Times, as stipulated by MAHABIR INDUSTRIES, were, in all cases met and in some instances exceeded.

We are very pleased with level of Service provided by MAHABIR INDUSTRIES and are at present using them on other Sub Station Projects throughout the Sub Saharan Africa Region.

MAHABIR INDUSTRIES is a Preferred Supplier for ABB South Africa. Pty (Ltd) and we highly recommend them, going forward.

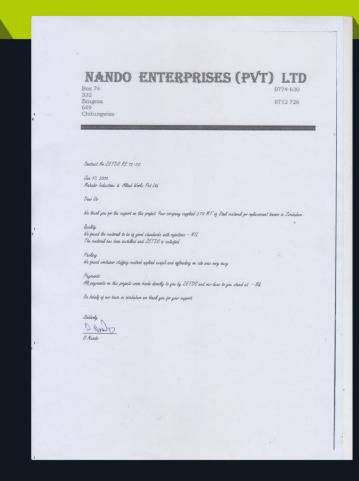
For, ABB South Africa Pty (Ltd):

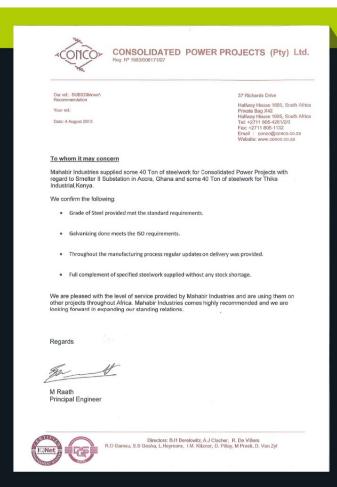
Colin Elliott
ABB Civil Engineering Manager

Gideon Van Zyl ABB Quality Manager

ABB South Africa (Pty) Ltd

Directors: C.M.S.PedecCCO; (Partiguese), J.D.R.D.; Mato, P.P.P. Middala, N.Dalec, D.A. Janes, L.M.Moyela, G.P.Millediwa, P. G. Warsland (Swedish) O.P.Dada (Alternac Director in L. M.Moyela, G.P. Millediwa, P. G. Warsland (Swedish)





#### HIGHTENSION SWITCHGEARS PVT. LTD.

A.T. COMPLEX, NEW PLAZA, KATHMANDU, NEPAL TEL.: 4435097, 4423801 FAX: 00977-1-4435885 E-MAIL: htsg@sumitnp.wlink.com.np

Date: 11.03.2016

#### TO WHOM IT MAY CONCERN

This is to certify that we have procured HDG Steel Substation Structures, Transmission Line Towers weighing 272.5 Tons from M/S MAHABIR INDUSTRIES & ALLIED WORKS PVT. LTD., BEGUSARAI (BIHAR), INDIA, for our Turnkey Projects undertaken by us from Nepal Electricity Authority.

They have supplied entire HDG Steel Structures within committed delivery period and we have installed all those HDG Steel Structures at different Substations under different Turnkey Contracts concluded with Nepal Electricity Authority.

The HDG Steel Structures fabricated / manufactured & supplied by them are found quite satisfactory and we have not received any adverse report till date from site. We are fully satisfied with their Quality, Services and overall

For: Hightension Switchgears Pvt. Ltd

#### Jharkhand Urja Sancharan Nigam Limited

Office of the General Manager-cum-Chief Engineer Transmission Zone-III Jamshedpur

No...353.../Jamshedpur,

Dated, the .. 30 . 04.2014

#### Performance Certificate

Certified that M/S Mahabir Industries & Allied Works Private Limited, Barauni industrial area, P.O- Tilrath, Distr- Begusarai (Bihar) has successfully supplied galvanized sub-station structures and transmission towers weighing around 120 MT against the different work orders issued to M/S ABN Tower & Transmission Private Limited Kolkata (West Bengal) for our different projects.

The quality of supplied materials are within full satisfaction to us.

(Subhash Mishra),
General Manager-Cum-Chief Engineer,
Transmission Zone-III Janusbertpur
GM CUM CHEF ENGINEER
TRANSMISSION ZONE-III
JAMSHEPUR



#### HIGHTENSION SWITCHGEARS PVT. LTD.

A.T. COMPLEX, NEW PLAZA, KATHMANDU, NEPAL TEL.: 4435097, 4423801 FAX: 00977-1-4435885 E-MAIL: htsg@sumitnp.wlink.com.np

Date: 11.03.2016

#### TO WHOM IT MAY CONCERN

This is to certify that we have procured HDG Steel Substation Structures, Transmission Line Towers weighing 272.5 Tons from M/S MAHABIR INDUSTRIES & ALLIED WORKS PVT. LTD., BEGUSARAI (BIHAR), INDIA, for our Turnkey Projects undertaken by us from Nepal Electricity Authority.

They have supplied entire HDG Steel Structures within committed delivery period and we have installed all those HDG Steel Structures at different Substations under different Turnkey Contracts concluded with Nepal Electricity Authority.

The HDG Steel Structures fabricated / manufactured & supplied by them are found quite satisfactory and we have not received any adverse report till date from site. We are fully satisfied with their Quality, Services and overall Performance.

For: Hightension Switchgears Pvt. Ltd.





ধাসাথ বুঁৎ বাধাৰ ভুজানথৰ কৰ Telecommunication Engineering Centre (ER) Telecom Q/A- Builfuling, EP & GP Block Bidhannagar, Sector · V, Kolkata · 700 091 জীন : 033-2357-0002, উম্বৰ্ধ : 033-2357-001

To

The Chairman, Meghalaya State Electricity Board, Short Round Road, Shillong.

The undersigned visited the factory of M/S Mahabir Industries & Allied Works Private Limited at Barauni Industrial Area, which manufacture telecommunication and transmission towers/equipments.

After inspection of the factory and verification of related products and documents relevant infrastructure assessment advice has been recommended and issued. The company has adequate machinery for fabrication and galvanizing along with all testing equipments to perform tests as per laid specifications. The company was able to meet deadlines as was laid by us.

It was also observed, based on the available documents that the company has decades of experience in ASCR and ACC Conductors which have been supplied to Railway, various SEBs, coal mines and other power utilities.

This company may therefore be recommended for relevant approvals.

Thanking you,

Your's faithfully,

Sadfan Kr Ghosh
Asst. Director General
Asst. Director Engine Engine Centra (ER)
Telecom Engin Centra (ER)
Dept. of Telecom, Gyvt. of India
Dept. of Telecom, Gyvt. of India
CC
Wember (Telemina)Spacre, Kakistan-1000-91
Chief Engineer (Transmission)

REGIONAL TELECOMMUNICATION ENGINEERING CENTRE Telecom O/A- Building EP & GP Block Bidhannagar, Sector - V Kolkata - 700 091
Tel : 033-2:57-0002, Fax : 033-2357-0011

# Certifications



Registration Certificate

The Quality Management Systems

MAHABIR INDUSTRIES & ALLIED WORKS PVT. LTD.

Carried out at following site:

BARAUNI INDUSTRIAL AREA, P.O. TILRATH, BEGUSARAI - 851 112 (BIHAR) (INDIA)

for their

QUALITY MANAGEMENT SYSTEM ISO 9001:2015

Scope of Activities covered by this Certificate:

DESIGN, FABRICATION & GALVANIZING OF STEEL STRUCTURES FOR RAILWAY ELECTRIFICATION, MICROWAVE TOWER, TRANSMISSION LINES AND ELECTRICAL SUB STATION

CERTIFICATE NO. : IAS/QMS/D1345

:04/04/2019

1° SURVEILLANCE DUE ON: 04/03/2020

VALIDITY DATE : 03/04/2022

2ND SURVEILLANCE DUE ON: 04/03/2021

THE VALIDITY OF CERTIFICATE IS SUBJECT TO REGULAR SURVEILLANCE AUDIT ON OR BEFORE ABOVE MENTIONED DATES AND IT'S ONLY VALID AFTER SUCCESSFUL SURVEILLANCE WITH CONTINUATION LETTER ISSUED BY CCPL

TO YERIFY THIS CERTIFICATE STATUS PLEASE VISIT AT http://ccpl.carecertification.com/



CHAIRMAN / DIRECTOR

WWW.CARECERTIFICATION.COM

U.K. OFFICE: - KEMP HOUSE, 160 CITY ROAD, LONDON, EC1V2NX, UNITED KINGDOM INDIA OFFICE: -134-A, 2ND FLOOR, TAIMOOR NAGAR, N.F.C., NEW DELHI-110 065

ACC NO. MSCB-120





National Accreditation Board for **Testing and Calibration Laboratories** 

(A Constituent Board of Quality Council of India)



#### SCOPE OF ACCREDITATION

Sibali Instrument Works, Jagacha Mohiary Road, A.T. Ghosh Road Laboratory Jn., P.O.- G.I.P. Colony, Howrah, West Bengal

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2737

Validity

1 of 9

22.06.2018 to 21.06.2020 Last Amended on 12.09.2019

SI.	Measurand or Reference Material/ Type of instrument or material to be calibrated or measured/ Quantity Measured / Instrument	Calibration or Measurement Method or procedure	Measurement range and additional parameters where applicable (Range and Frequency)	Calibration and Measurement Capability (CMC) (±)
-----	---	--	--	--

#### **ELECTRO TECHNICAL CALIBRATION**

I.	SOURCE			
1.	DC Voltage <sup>8</sup>	Using Multi-Function Calibrator Zeal 5.5 by Direct Method	0.5 mV to 200 mV 200 mV to 2 V 2 V to 20 V 20 V to 200 V 200 V to 1000 V	1.90 % to 0.2 % 0.20 % to 0.04 % 0.04 % 0.04 % 0.04 % to 0.01 %
2.	AC Voltage <sup>\$</sup>	Using Multi-Function Calibrator Zeal 5.5 by Direct Method	50 Hz 5 mV to 200 mV 200 mV to 2 V 2 V to 20 V 20 V to 200 V 200 V to 1000 V	2.80 % to 0.31% 0.32 % to 0.24 % 0.24 % 0.24 % to 0.30 % 0.32 % to 0.12 %
3.	DC Current <sup>5</sup>	Using Multi-Function Calibrator Zeal 5.5 by Direct Method	0.2 mA to 2 mA 2 mA to 20 mA 20 mA to 200 mA 0.2 A to 2 A 2 A to 10 A	0.19 % to 0.1 % 0.1 % 0.09 % to 0.08 % 0.08 % to 0.50 % 0.50 % to 0.2 %
4.	AC Current <sup>5</sup>	Using Multi-Function Calibrator Zeal 5.5 by Direct Method	50 Hz 5 mA to 20 mA 20 mA to 200 mA 0.2 A to 2 A 2 A to 10 A	0.20 % 0.20 % to 0.17 % 0.17 % to 0.68 % 0.68 % to 0.27 %

Battalsing



National Accreditation Board for **Testing and Calibration Laboratories** 

(A Constituent Board of Quality Council of India)



#### SCOPE OF ACCREDITATION

Laboratory Sibali Instrument Works, Jagacha Mohiary Road, A.T. Ghosh Road

Jn., P.O.- G.I.P. Colony, Howrah, West Bengal

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number

2 of 9

Validity 22.06.2018 to 21.06.2020 Last Amended on 12.09.2019

SI.	Measurand or Reference Material/ Type of instrument or material to be calibrated or measured/ Quantity Measured / Instrument	Calibration or Measurement Method or procedure	Measurement range and additional parameters where applicable (Range and Frequency)	Calibration and Measurement Capability (CMC) (±)
5.	DC High Current <sup>8</sup>	Using Multi-Function Calibrator Zeal 5.5 & 100 Turn Current Coil by Direct Method	10 A to 500 A 500 A to 900 A	1.25 % to 1.00 % 1.50 %
6.	AC High Current <sup>s</sup>	Using Multi-Function Calibrator Zeal 5.5 & 100 Turn Current Coil by Direct Method	50 Hz 10 A to 500 A 500 A to 900 A	1.41 % to 1.20 % 1.80 %
7.	Resistance <sup>3</sup>	Using Decade Resistance box Zeal by Direct Method	1 Ω to 10 Ω 10 Ω to 10 ΜΩ 10 ΜΩ to 200 ΜΩ 200 ΜΩ to 1000 ΜΩ	0.78 % to 0.09 % 0.09 % to 0.05 % 0.05 % to 3.0 % 3.00 %
8.	Frequency <sup>8</sup> At Reference Voltage 3.5 V	Using Multi-Function Calibrator Zeal 5.5 & 100 Turn Current Coil by Direct Method	45 Hz to 1 kHz	0.66 %
9.	Temperature <sup>\$</sup> (Simulation Method)			
	Thermocouple J Type K Type E type R type T Type	Temperature Source Kusum Meco KM-CAL 901 by Direct Method	(-) 199.9 °C to 999.9 °C (-) 199.9 °C to 1250 °C (-) 100 °C to 600.0 °C 100 °C to 1650 °C (-) 199.9 °C to 390 °C	2.24 °C 2.25 °C 2.29 °C 3.58 °C 2.24 °C
	RTD PT 100 Type		(-) 100 °C to 600 °C	1.10 °C

Program Manage





#### National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



#### SCOPE OF ACCREDITATION

Laboratory Sibali Instrument Works, Jagacha Mohiary Road, A.T. Ghosh Road Jn., P.O.- G.I.P. Colony, Howrah, West Bengal

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2737

3 of 9 Page

Validity 22.06.2018 to 21.06.2020 Last Amended on 12.09.2019

SI.	Measurand or Reference Material/ Type of instrument or material to be calibrated or measured/ Quantity Measured / Instrument	Calibration or Measurement Method or procedure	Measurement range and additional parameters where applicable (Range and Frequency)	Calibration and Measurement Capability (CMC) (±)
II.	MEASURE			
1.	DC High Voltage <sup>3</sup>	Using Multi Meter & HV Prove by Direct Method	5 kV to 29 kV	11:84 % to 4.32 %
2.	AC High Voltage <sup>8</sup>	Using Multi Meter & HV Prove by Direct Method	5 kV to 29 kV	12.54 % to 6.44 %
3.	Time <sup>s</sup>	Using Time Interval Meter by Comparison Method	5 sec to 3600 sec	0.65 % to 0.36 %

Dheeraj Chawla Convenor

Program Manager



#### National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)

#### SCOPE OF ACCREDITATION

Laboratory Sibali Instrument Works, Jagacha Mohiary Road, A.T. Ghosh Road Jn., P.O.- G.I.P. Colony, Howrah, West Bengal

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2737

4 of 9

Validity 22.06.2018 to 21.06.2020 Last Amended on 12.09.2019

SI.	Measurand or Reference Material/ Type of instrument or material to be calibrated or measured/ Quantity Measured / Instrument	Calibration or Measurement Method or procedure	Measurement range and additional parameters where applicable (Range and Frequency)	Calibration and Measurement Capability (CMC) (±
		MECHANICAL CAL	BRATION	
I.	DIMENSION (BASIC MEA	ASURING INSTRUMENT, GA	UGE ETC.)	
1.	Steel Scale <sup>5</sup> L.C. 1mm	Using Scale & Tape Calibrator by Comparison Method	0 to 1000 mm	280 µm
2.	Measuring Tape/Pie Tape <sup>\$</sup> L.C. 1 mm	Using Scale & Tape Calibrator by Comparison Method	0 to 30 mtr	560√L µm L in mtr
3.	Pie tape <sup>8</sup>	Using Scale & Tape Calibrator by Comparison Method	60 to 950	560√L µm L in mtr
4.	Depth Vernier <sup>3</sup> L.C. 0.02 mm	Using Long Gauge Block Set, Surface Plate by Comparison Method	0 to 300 mm	17.2 µm
5.	Depth Micrometer <sup>8</sup> L.C. 0.01mm	Using Gauge Block Set , surface plate by Comparison Method	0 to 150 mm	8.6 µm

Battal Singh Program Manager



### National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



#### SCOPE OF ACCREDITATION

Sibali Instrument Works, Jagacha Mohiary Road, A.T. Ghosh Road Jn., P.O.- G.I.P. Colony, Howrah, West Bengal Laboratory

Accreditation Standard ISO/IEC 17025: 2005

CC-2737 Certificate Number 5 of 9

22.06.2018 to 21.06.2020 Last Amended on 12.09.2019

51.	Measurand or Reference Material/ Type of instrument or material to be calibrated or measured/ Quantity Measured / Instrument	Calibration or Measurement Method or procedure	Measurement range and additional parameters where applicable (Range and Frequency)	Calibration and Measurement Capability (CMC) (±)
6.	Bore Gauge <sup>5</sup> (Transmission Error ) L.C. 0.001mm	Using Micrometer Holder & Stand by Comparison Method	0.01 mm to 2mm	6.9 µm
7.	Plunger Dial <sup>8</sup> L.C. 0.001mm	Using Gauge Block Set by Comparison Method	0 to 10 mm 0 to 50 mm	6.8 µm 8.2 µm
8.	Height Gauge <sup>s</sup> (Dial/Digital/Analog) L.C. 0.01mm	Using Long Gauge Block Set, Surface Plate by Comparison Method	0 to 600mm	14 µm
9.	Internal Micrometer / Stick Micrometer <sup>5</sup> L.C. 0.01mm	Using Long Gauge Block Set, Surface Plate, Slip Gauge Accessory Set by Comparison Method	50 mm to 1000 mm	11.20 µm
10.	External Micrometer <sup>8</sup> L.C. 0.001mm  L.C. 0.01mm	Using Gauge Block Set / Long Gauge Block Set by Comparison Method	0 to 150 mm 150 mm to 225mm 0 to 600 mm	2.5 μm 4.0 μm 11.7 μm
11.	Feeler Gauge <sup>®</sup>	Using Digital Micrometer	0 to 1 mm	4.0 µm

Dheeraj Chawla





#### National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



6 of 9

#### SCOPE OF ACCREDITATION

Sibali Instrument Works, Jagacha Mohiary Road, A.T. Ghosh Road Jn., P.O.- G.I.P. Colony, Howrah, West Bengal Laboratory

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2737

Validity 22.06.2018 to 21.06.2020 Last Amended on 12.09.2019

SI.	Measurand or Reference Material/ Type of instrument or material to be calibrated or measured/ Quantity Measured / Instrument	Calibration or Measurement Method or procedure	Measurement range and additional parameters where applicable (Range and Frequency)	Calibration and Measurement Capability (CMC) (±)
12.	Coating Thickness Gauge L.C. 0.001mm	Using Master Thickness Foils Set	0.015mm to 1.2mm	5.7 µm
13.	Vernier Caliper . (Dial/Digital/Analog) L.C. 0.01mm L.C. 0.02mm	Using Long Gauge Block Set, Surface Plate, Slip Gauge Accessory Set	0 to 300 mm 0 to 1000mm	8.4 μm 20.7 μm
14.	Radios Gauge Set <sup>5</sup>	Using Profile Projector	R 0.6 to R 25	24.9 µm
15.	Thread Pitch Gauge <sup>§</sup>	Using Profile Projector	0.4mm to 6.0mm	18.7 µm
16	Bevel Protractor <sup>5</sup> L.C. 5 Min	Using Angle Gauge Block	0 – 90 °	4.1 Min
17	Test Sieves <sup>5</sup>	Using Profile Projector Using Digital Caliper	0.045 mm to 1mm 1.00mm to 25mm 25mm to 100 mm	4.7 μm 16.3 μm 21.6 μm
18.	Plain Plug Gauge <sup>5</sup>	ULM By Comparison Method	Up to 100 mm	1.6 µm
19.	Plain ring Gauge <sup>3</sup>	ULM and Master Ring Gauge By Comparison Method	5 mm to 100 mm	1.4 µm
20.	Thread Plug gauge <sup>5</sup>	Using ULM and Measuring wire set By Comparison Method	5 mm to 100 mm	2.0 µm
21.	Thread Ring gauge*	Using ULM and Master Ring Gauge By Comparison Method	5 mm to 100 mm	1.4 µm



Dheeraj Chawla Convenor







#### National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



#### SCOPE OF ACCREDITATION

Laboratory Sibali Instrument Works, Jagacha Mohiary Road, A.T. Ghosh Road Jn., P.O.- G.I.P. Colony, Howrah, West Bengal

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number

Page 7 of 9

Validity Last Amended on 12.09.2019 22.06.2018 to 21.06.2020

SI.	Measurand or Reference Material/ Type of instrument or material to be calibrated or measured/ Quantity Measured / Instrument	Calibration or Measurement Method or procedure	Measurement range and additional parameters where applicable (Range and Frequency)	Calibration and Measurement Capability (CMC) (±)
22.	Snap gauge/Gap Gauge <sup>§</sup>	Using ULM and Master Ring Gauge By Comparison Method	15 mm to 100 mm	1.2 µm
23.	Thickness Foil <sup>8</sup>	Using ULM By Comparison Method	Up to 1511 μm	0.8 µm
II.	PRESSURE INDICATING	DEVICES		
1.	Vacuum Gauge* (Analog/Digital Gauges)	Using Digital Vacuum Gauge & Hand Pump Comparator	(-)0.85 to 0 bar	0.6 bar
2.	Pressure Gauge* (Analog/Digital Gauges)	Using Digital Pressure Gauge with Hydraulic Comparator	0 to 7 bar 0 to 600 bar	0.003 bar 3.96 bar
III.	WEIGHTS			
1.	Mass-Weights*	Using E, Class weights and balance of readability 0.1 mg & Calibration weights of Class F <sub>2</sub> accuracy and coarser as per OIML R-111	1 mg 2 mg 5 mg 10 mg 10 mg 50 mg 100 mg 50 mg 500 mg 200 mg 500 mg 1 g 2 g 5 g 1 0 g 2 0 g 2 0 g 2 0 g 2 0 g 2 0 g 2 0 g	0.19 mg 0.12 mg







#### National Accreditation Board for **Testing and Calibration Laboratories**

(A Constituent Board of Quality Council of India)



#### SCOPE OF ACCREDITATION

Laboratory Sibali Instrument Works, Jagacha Mohiary Road, A.T. Ghosh Road Jn., P.O.- G.I.P. Colony, Howrah, West Bengal

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2737 8 of 9

Validity 22.06.2018 to 21.06.2020 Last Amended on 12.09.2019

va	nuity 2	2.00.2018 to 21.00.2020	Last Amende	ed on 12.09.2019
31.	Measurand or Reference Material/ Type of instrument or material to be calibrated or measured/ Quantity Measured / Instrument	Calibration or Measurement Method or procedure	Measurement range and additional parameters where applicable (Range and Frequency)	Calibration and Measurement Capability (CMC) (±
IV.	VOLUME			# 1000 # \$400 # # 100 # 100 P
1.	Glassware like Pipettes, Burettes, Measuring Cylinder, Volumetric Flask* etc.	Using Weighing balance of 80 g/ 220 g capacity and 0.01 mg / 0.1 mg readability and distilled water	1 ml to 100 ml @ 27 °C	0.25 ml
٧.	WEIGHING SCALE AND	BALANCE		
1.	Mass- Electronic weighing balances with readability <sup>8</sup> d=0.1 mg	Using E <sub>1</sub> Class weights & Calibration of electronic weighing balance and comparator of Class I and coarser As per OIML R-76-1	Maximum capacity up to 200g	0.20mg
	d=5 g	Using M <sub>1</sub> class weights & Calibration of electronic weighing balance and Comparator of Class III and coarser As per OIML R-76-1	Maximum capacity up to 5000 g	3 g
VI.	ACCELERATION AND SI	PEED		
1.	Tachometer * (Contact Type)	Using Digital Tachometer with rpm source Using Digital Tachometer with rpm source	100 rpm to 3500 rpm	0.27% rdg
2.	Tachometer * (Non-Contact Type)	Using Digital Tachometer with rpm source Using Digital Tachometer with rpm source	10 rpm to 999999 rpm	0.24% rdg .

Dheeraj Chawla

Battal Singh Program Manager





## National Accreditation Board for Testing and Calibration Laboratories





#### SCOPE OF ACCREDITATION

Laboratory Sibali Instrument Works, Jagacha Mohiary Road, A.T. Ghosh Road Jn., P.O.- G.I.P. Colony, Howrah, West Bengal

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2737

Page

9 of 9

Validity 22.06.2018 to 21.06.2020

Last Amended on 12.09.2019

SI.	Measurand or Reference Material/ Type of instrument or material to be calibrated or measured/ Quantity Measured / Instrument	Calibration or Measurement Method or procedure	Measurement range and additional parameters where applicable (Range and Frequency)	Calibration and Measurement Capability (CMC) (±)
		THERMAL CALIB	RATION	
I.	TEMPERATURE			
1.	Dial & Digital Temperature Gauge <sup>s</sup>	Using Dig. Thermometer with Pt-100 sensor, L.C-0.01 °C by Comparison method	(-) 20°C to 50°C	1.31 °C
2.	Dial & Digital Temperature Gauge <sup>5</sup>	Using Dig. Thermometer with R Type Thermocouple. L.C-0.1 °C by Comparison method	50°C to 900 °C	2.70 °C
3.	Dial & Digital Temperature Gauge*	Using Digital thermometer with R-Type Thermocouple by Comparison method L.C- 0.1 °C	20°C to 650 °C	1.50 °C
II.	SPECIFIC HEAT AND HU	MIDITY		
1.	Humidity <sup>5</sup>	Using Digital Humidity Indicator with sensor, L.C. 0.01 % RH using	40°C to 98 % RH	1.75 % RH

Humidity Chamber having controlling accuracy (±) RH by Comparison Method

Dheeraj Chawla Convenor

Battalsing Battal Singh Program Manager

Measurement Capability is expressed as an uncertainty (±) at a confidence probability of 95% \*Only in Permanent Laboratory \*Only in Permanent Laboratory \*Only for Site Calibration \*Only for Site Calibration \*The laboratory is also capable for site calibration however, the uncertainty at site depends on the prevailing actual environmental conditions and master equipment used.

# Other PRODUCTS

## Monopole:

A pioneer, Mahabir is the largest Monopole designing and manufacturing facility in India, armed with global expertise and intellectual capital. It has an application of upto 400 kV in Transmission Towers and for heights of up to 40 metres for Telecom Towers

### **Telecom Towers:**

Mahabir has state of the art facility for production of all types of ground based telecom towers and monopoles. With the advent of newer technologies Mahabir is also currently supplying various kinds of camouflaged towers which are basically monopoles made to look like palm tree, pine tree etc. Our partners in South Africa have build various site management plans for tower companies in Africa.

### Poles:

Mahabir's strength as a pole manufacturer lies in its ability to offer turnkey solution for lighting masts, steet lighting poles, decorative lighting poles, camera poles, distribution poles, flag mast tubular swaged poles, high mast poles, octogonal poles an Monopoles The durability and quality of Mahabir poles ensures long durability and ease of installation.

## Railway Electrification:

The company is gearing up to sharpen its focus on Railway electrification and intends to increasingly start bidding for such projects in strategic alliance with local private players initially. The company is in the process of adding more manpower and building capacities to handle all future railways related projects.

### **Handrails:**

Mahabir offers cost-effective ready fix handrail system to guard platforms, stairways, walkways, towers, danger zones, etc. Our modular systems consists of standard and custom handrails, which are delivered with all bends and joints duly marked for easy installation.

Cable management

cable management systems -

trays, plain cable trays and

ladder trays in mild steel,

tees are available.

system:

### Solar:

Mahabir can offer complete state of the art solar EPC services ranging from ground mounted to roof top solution. Our partner company designs, conducts project feasibility across large-scale solar photovoltaic power plants with inhouse capability to manufacture solar structure and cables and can execute large projects of over 100 MW.

#### Mahabir can design material Mahabir is a leading fabricator of handling systems of various types embossed tray, perforated cable such as belt conveyors, screw conveyors, feeders, bucket elevators, chain conveyors, roller stainless steel and aluminium. conveyors, bag filters, rotary Accessories for perforated as well feeders, airlock valves, bin as ladder type cable tray such as activators, air slides, jaw horizontal bends, vertical inside crushers, hammer mills, impact and outside bends, reducers and crusher, vibrating screens, reciprocating feeders etc as per your customized needs.

## Pipes:

With over 60 years of experience in pipe manufacturing we offer a rare blend by adopting to latest technologies in the world. We manufacture uPVC, CPVC, SWR, HDPE and GI Pipes and fittings in our state-of-the art plants in India. We also maintain stocks of pipes in Nigeria, Kenya, South Africa, Mozambique and Angola in our partner warehouses. We are capable of developing new products for oil field and mining industry with our R&D Division.

## **Bulk material handling** system:

Mahabir Projects focus on construction of factories and warehouses we can offer complete EPC solution for designing and setting up for any kind of manufacturing plant. The partnership extends to hiring the top personnel for your factory, sourcing of raw material and developing an export market for your product.

Civil and project

export:

# Substation Gantry and Equipment support structures:

We have helped various clients in Africa in designing substations of upto 765KV. We would help with project planning and can manufacture all support equipment and gantry structures at our manufacturing facilities.

### Conductors:

We have one of the oldest manufacturing of ACSR conductors in India and have traded with nearly all 26 electricity boards in India. Conductors manufactured by us if laid in straight lines can transmit electricity from north pole to south pole on three parallel transmission line.

### **Insulators:**

Mahabir is a leading supplier of state-of-the-art electric porcelain insulator for substation, overhead line and precipitator applications specialising in the insulator design upto 1200 KV Ac and 1100 KV DC system voltages.

## **Transformers:**

Mahabir can manufacture instrument transformers upto 440 Kv which are type tested as per IEC/IS standards. Apart from routine tests, with an inhouse high voltage discharge test lab and series resonant system which allows testing of CT at 50 Hz & PT at 100 Kz directly.

## **Steel Bridges:**

A partner EPC contracting company within the group has extensive experience in building bridges across politically sensitive areas and tough terrains. Within our manufacturing facilities we manufacture plate grinders and open web Girder.

## **Grating:**

Mahabir is among the largest electroforged grating manufacturers in India, having a large facility to produce electroforged grating panels, cut-to-size or custom fabricated electroforged gratings, circular gratins, heavy duty gully gratings and stair trends with required fixing clamps in mild steel and stainless steel. The grating can be supplied in self-color, hot dip galvanized and painted surface fresh.

# Rice, wheat, oil and pasta:

Mahabir has rice, flour and oil mills and maintains supplies across various warehouses in Africa including South Africa, Madagascar, Angola, Benin and Kenya. We can also supply various other food products at short notice. Mahabir manufactures long cut and short cut pasta in Angola.

### **Wood works:**

Mahabir has a state of the art manufacturing facility in Africa of plyboard, solid doors, windows and coffins.

### Farm lands:

Mahabir grows out of its 2000 hector farms in Africa various fruits and pulses such as wheat.



# **Mahabir Industries**

Mahabir, R3, 6<sup>th</sup> floor, Commercial point, 79, Lenin Sarani, Kolkata - 700013, (WB)-INDIA.

Mahabir, 1, Barauni Industrial Area, P.O: Tilrath - 851122, Begusarai, Bihar - INDIA.

Mahabir, Masoom T, Regus, 2 Woodland Drive, Woodmead -2052 SOUTH AFRICA.

Mahabir, IALTURC Industria E Comercio Su LDA, Pólo Industrial da Caála, Huambo – Angola.

## Mr.Saurabh Maskara - CEO

+91 9163660019 - Direct contact (\*International calls only)

- saurabh@mahabirindustries.com
- mahabirindustries.com

