

**NAME** : ANIRBAN DATTA  
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Email: [anirbandatta.mech@gmail.com](mailto:anirbandatta.mech@gmail.com); [anirbandatta.pe@gmail.com](mailto:anirbandatta.pe@gmail.com)  
**TOTAL PROFESSIONAL EXPERIENCE** : 24 years plus  
**PROFESSIONAL MEMBERSHIP** : 1. Life Corporate Member - The Institution of Engineers (India)  
2. Life Member - Indian Society of Training & Development

**HONORARY POSITION**

Elected Member of the State Committee of West Bengal State Centre of The Institution of Engineers (India), and Joint Honorary Secretary of West Bengal

**CERTIFICATION**

1. Chartered Engineer (India)
2. Professional Engineer (India)
3. Online Proficiency cum Self Assessment Test for Independent Director's Databank from Indian Institute of Corporate Affairs, Under the Aegis of Ministry of Corporate Affairs, Govt. of India, and qualified & eligible for position of Independent Director
4. Online Certificate Courses from United Nations Institute for Training and Research (UNITAR) on United Nation's Sustainable Development Goals (SDG):
  - a. Environmental SDG Indicators
  - b. Environmental SDG Indicators – Policymaker Learning Pathway
  - c. Integrated Recovery Planning and Policy Coherence Towards SDGs
  - d. Introduction to data governance for monitoring the SDGs

**PROFILE**

Mechanical Engineer, Specializing in Pipe Stress Analysis (Static & Dynamic) for Various Critical Piping Systems and Static Equipment of Oil & Gas, Petrochemical, Power and Steel & Metal Sectors; Dynamic Project Manager; Had been the Project Engineering Manager for India's largest commissioned Blast Furnace - Blast Furnace 5 in Rourkela Steel Plant of SAIL, Sub-Critical & Super Critical Power Projects of NTPC, TATA Power, CESC, and many projects in Oil & Gas Sector for Clients like Qatar Petroleum, IOCL, HMEL, OIL, HPCL, BPCL, Valero Energy, Chalmette Energy, Enterprise Energy; Elected State Committee Member of West Bengal State Centre of The Institution of Engineers (India) and Joint Honorary Secretary of West Bengal; Organized many national & international events; Authored Technical Papers on various areas of design engineering and management

**KEY SKILLS**

Stress Analysis of Piping Systems, including Static and Dynamic Analysis, Hydraulic Analysis (Steady State & Transient) and Pressure Drop Calculations, Selection of Pipe Hangers & Supports, Piping Layout, Piping & Valves Materials Specifications, Power Cycle Heat Balance Calculations, Design of Static Equipment including Pressure Vessels and Storage Tanks, Finite Element Analysis, Water System, Basic, FEED and Detailed Engineering, Fire Protection & Loss Prevention System, Project Feasibility Study, Detailed Project Report, Project Financial Estimations & Costing Project Management, Inter-Discipline Coordination, Manpower & Resource Planning, Forecasting & Allocation, Training & Skill Development

**EDUCATIONAL QUALIFICATION**

Graduate in Mechanical Engineering from The Institution of Engineers (India)

Post Graduate Diploma (Equivalent to Masters Degree) in Energy Technology and Management from Indian Institute of Social Welfare & Business Management under University of Calcutta

Bachelor of Science with Mathematics, Physics and Chemistry from University of Calcutta

**PROFESSIONAL EXPERIENCE**

*From October 2021 – Till Date:* Working as Independent Consulting Engineer along with in the role of Chief Technology Officer of MESCIA Engineers

*From October 2016 – September 2021:* Richard Design Services India Private Limited (A subsidiary of Richard Industrial Group, USA)

*From June 2016 – October 2016: MESCIA Engineers*

*From June 2008 – July 2016: TATA Consulting Engineers Limited*

*From November 2007 – May 2008: Indian Oiltanking Limited*

*From December 1999 – October 2007: Consulting Engineering Services (India) Private Limited*

*From February 1999 – December 1999: CESC Limited*

**UNITS/SYSTEMS WORKED**

- *Delayed Coker Unit (DCU)*
- *Crude Distillation Unit (CDU)*
- *Sulphur Recovery Unit (SRU)*
- *Vacuum Distillation Unit (VDU)*
- *Naphtha Splitter Unit (NSU)*
- *Isomerization Unit (ISOMU)*
- *Gas Compression Unit (GCU)*
- *Vacuum Degassing Unit (VGU)*
- *Group Gathering System (GGS)*
- *Water Injection Plant (WIP)*
- *Chemical Plants*
- *Interplant Piping*
- *Cross-Country Pipeline*
- *Coal Based Thermal Power Plants*
- *Gas Based and Combined Cycle Thermal Power Plants*
- *Co-generation Plants*
- *Cooling Water Systems including Power Plant CW & ACW Systems, Raw & Make-up Water Systems and Natural Draft & Induced Draft Cooling Towers*
- *Blast Furnace including Furnace Proper, Hot Blast, Cold Blast, Cooling System, Gas Cleaning Plant, Slag Granulation and Handling Plant*
- *Sinter Plant*
- *Coke Oven Plant and Coke Dry Quenching System*
- *Steel Melt Shop (SMS)*
- *Rolling Mills*
- *Galvanizing & Annealing Plant*
- *Zinc Beneficiation Plant*
- *Flue Gas Desulphurization System (FGD)*

**Major Projects Handled in the capacity of Lead Engineer & Project Engineering Manager**

- 1) *Sulfur Recovery Unit of Valero Port Arthur Refinery, Texas, USA*
- 2) *Enterprise North Sand Dunes Gas Compression Plant, New Mexico, USA*
- 3) *Enterprise Central Sand Dunes Gas Compression Plant, New Mexico, USA*
- 4) *Delayed Coker Unit of Husky Refinery, Ohio, USA*
- 5) *St. Charles Valero Refinery, Louisiana, USA*
- 6) *Valero Three Rivers Refinery, Texas, USA*
- 7) *Delayed Coker Unit of PBF Chalmette Refinery, Louisiana, USA*
- 8) *Diamond Green Diesel Project, Louisiana, USA*
- 9) *Alumina Refinery of Vedanta Limited, Lanjigarh, Odisha*
- 10) *Oil India Limited – Water Injection Plant, Dibrugarh, Assam*
- 11) *Oil India Limited – Crude Oil Unloading System, Dibrugarh, Assam*
- 12) *Pressure Vessel Design, MCC PTA India Corp Private Limited, Haldia, West Bengal*
- 13) *Interplant Steam Piping Network Augmentation TATA Steel Limited, Jamshedpur, Jharkhand*
- 14) *ISBL & OSBL Piping and Cross-Country Pipelines Augmentation of Haldia Petrochemicals Limited, Haldia, West Bengal*
- 15) *Process & Steam Piping Augmentation of IOCL Barauni Refinery, Bihar*
- 16) *Guru Govind Singh Refinery Project of HPCL–Mittal Energy Limited, Bhatinda, Punjab*
- 17) *Coke Dry Quenching Plant of TATA Steel Limited, Jamshedpur, Jharkhand*
- 18) *Coke Dry Quenching Plant of TATA Steel Limited, Kalinganagar, Odisha*
- 19) *Zinc Mining & Beneficiation Project of Black Mountain Mining, Gamsberg, South Africa*
- 20) *National Mineral Development Corporation Limited - Blast Furnace 1 Project, Nagarnar, Chhattisgarh*
- 21) *SAIL – Rourkela Steel Plant – Blast Furnace 5 Project, Odisha*
- 22) *SAIL – Bokaro Steel Plant – Blast Furnace 2 Augmentation, Jharkhand*
- 23) *2 x 204 m<sup>2</sup> Sinter Plant in Iron & Steel Plant Meramandali of Bhushan Steel Limited, Odisha*
- 24) *2 x 300 MW Thermal Power Project of Haldia Energy Limited (Subsidiary of CESC) at Haldia, West Bengal,*

- 25) 2 x 300 MW Thermal Power Project of Dhariwal Infrastructure Private Limited (Subsidiary of CESC) at Tarali-Chandrapur, Maharashtra
- 26) 2 x 270 MW (Phase – 1) MP Super Thermal Power Project of Adhunik Power & Natural Resources Limited at COREX Gas based DRI Plant of JSW Limited, Toranagallu, Karnataka
- 27) Assam Renewal Project of ONGC
- 28) Oil Storage and Terminal Facility, Sohar Port, Oman
- 29) Residue Upgradation and MS/HSD Quality Improvement Project of Gujarat Refinery of Indian Oil Corporation Limited - Isomerization & Naphtha Splitter Unit
- 30) Oil Terminal Project at Siliguri for Numaligar Refinery Limited
- 31) Liquid Product Loading/Unloading Berths 1A & 1B of Qatar Petroleum at Ras Laffan, State of Qatar;
- 32) Liquid Product Loading/Unloading Berths 3A & 3B of Qatar Petroleum at Ras Laffan, State of Qatar;
- 33) Berth 18 Extension under Qatofin Marine Works Package at Mesaieed, State of Qatar;
- 34) Methanol Plant Revamping Package of Qatar Fuel Additive Company (QAFAC) at Mesaieed, State of Qatar
- 35) 1 x 500 MW Ramagundam Super Thermal Power Project (Stage – III) of National Thermal Power Corporation Limited - CW System Turnkey Package
- 36) 130 MW New Cossipore Generating Station, CESC Limited – Retrofitting of Wet Electrostatic Precipitator in the Flue Gas Discharge System
- 37) 4 x 500 MW Talcher Super Thermal Power Project (Stage – II) of National Thermal Power Corporation Limited – Design of 7 km long Ash Water Recirculation Pipeline
- 38) 4 x 60 MW & 2 x 110 MW Talcher Thermal Power Project (Stage – I & II) of National Thermal Power Corporation Limited – Design of 4.5 km long Ash Water Recirculation Pipeline
- 39) Phase – II Expansion of Integrated Steel Plant – Uttam Galva Metallic Limited, Wardha, Maharashtra

**RESPONSIBILITIES**

- Stress Analysis of Piping of Coke Drum, Fired Heater, Distillation Column, Reboiler, Blow Down Tower, Heat Exchanger, Steam Generator, Turbine, Furnace, Compressor, Pumps
- Piping Layout and 3D Modelling, Model Review and Inter-Discipline Coordination
- Mechanical Design of Pressure Vessels
- Finite Element Analysis of Heat Exchanger and Pressure Vessel Nozzles
- Preparation of General Arrangement and Fabrication Drawings of Pressure Vessels
- Preparation of Support & Hanger Arrangement and Schedule
- Preparation of Piping Materials Specification and Valve Materials Specification
- Selection of Hangers
- Selection of Expansion Joints
- Review and Checking of Piping GA Drawings and Isometrics
- Preparation of Design Basis Reports
- Preparation of FEED
- Preparation of Procurement Specifications for Pipes, Fittings, Valves, Hangers & Supports, Expansion Joints, Pressure Vessels, Heat Exchangers, pumps, Compressors
- Bid Evaluation and Techno-Commercial Recommendation for Misc. Package Items
- Review of Drawings and Documents from Vendors
- Project Feasibility Study & Detailed Project Report
- Pre-Tender Engineering
- Cost Estimation
- Resource Forecasting, Planning & Allocation
- Working as Lead Piping and Mechanical Engineer and leading the team of Engineers and Designers.
- Working as Project Engineering Manager in Multi-Disciplinary Projects
- Leading the CAE Group; Development of In-house training and Skill Development Programme

**PROFICIENCY IN SOFTWARE PACKAGES**

CAESAR II, AUTOPIPE, CAEPIPE, ALGOR PIPE PACK, TRIFLEX, SIMFLEX, PV-ELITE, NozzlePro, FE-Pipe, Codeware Compress, MECASStack, PIPENET (Standard, Spray/Sprinkler and Transient Modules), Navisworks, CADWorx, EPlant, Thermoflow, Complete MS-OFFICE family, AutoCAD R14

**TECHNICAL PUBLICATIONS**

1. Evaluation of Fitness for Service and Remaining Life Assessment of a Corroded Coke Oven Gas Pipeline in an Integrated Steel Plant; published in Conference Volume of 38th Indian Engineering Congress; The Institution of Engineers (India)

2. Comparative Analysis and Pros & Cons of Evaluation of Different Methods for Flange Leakage in Process Plant Critical Piping; published in Conference Volume of 37th Indian Engineering Congress; The Institution of Engineers (India)
3. Selection of Proper Expansion Joints in Large Diameter Piping System - Considerations & Pitfalls; published in Conference Volume of 37th Indian Engineering Congress; The Institution of Engineers (India)
4. Sustainable Marketing and Consumer Value (ISBN 9781032002446) V. SUSTAINABLE OPPORTUNITIES – Chapter 10. Building Skills for Sustainable Development – A key for business excellence
5. Challenges in Design of Positive Isolation System for Large Diameter Gas Piping in Steel Plants; published in Conference Volume of 36th Indian Engineering Congress; The Institution of Engineers (India), 2021
6. Experience of Belt Jump and Sway in a Short Belt Conveyor; published in Conference Volume of 36th Indian Engineering Congress; The Institution of Engineers (India), 2021
7. Challenges & Way Forward in Integration of Remote Based Working Environment for a Multi-Disciplinary Engineering Design Centre; published in Conference Volume of 35th Indian Engineering Congress; The Institution of Engineers (India), 2020
8. Role of Consulting Engineers in Mechanical Engineering on the way to Self-Reliant India; published in Conference Volume of 35th Indian Engineering Congress; The Institution of Engineers (India), 2020
9. Problems of Management of Domestic and Industrial Water System in Mining Environment; published in Conference Volume of 34th Indian Engineering Congress; The Institution of Engineers (India), 2019
10. Innovative Safety Device for Gas Flaring System in a Steel Plant; published in Conference Volume of 34th Indian Engineering Congress; The Institution of Engineers (India), 2019
11. Application of Moment Restraining Supports in Process Plant Critical Piping; published in Conference Volume of 34th Indian Engineering Congress; The Institution of Engineers (India), 2019
12. Effect of 'Banana Effect' in Stress Analysis of Coke Drum Piping of a Delayed Coker Unit; published in Conference Volume of Centenary International Engineering Congress; The Institution of Engineers (India) - Qatar Chapter, 2019
13. Integration of Analytical Software and 3D Platform in Plant Design and Engineering: A Paradigm Shift for the Upcoming and Revamped Process Plants; published in Conference Volume of 33rd Indian Engineering Congress; The Institution of Engineers (India), 2018