



PPMAI

PROCESS PLANT & MACHINERY
ASSOCIATION OF INDIA

PEOPLE
TECHNOLOGY
SUSTAINABILITY
A STRONGER INDIA

INDIAN PROCESS PLANT & MACHINERY PULSE



CONNECTING. COLLABORATING.
ADVANCING TOGETHER.

THE SENSES THAT KEEP INDUSTRY MOVING

INSTRUMENTATION.
AUTOMATION.
INTELLIGENCE.
A SAFER, SMARTER
TOMORROW.

PREDICT
PROTECT
PERFORM

PRESSURE

TEMPERATURE

LEVEL

FLOW

ENGINEERING
A MORE RESILIENT
TOMORROW



ENERGY

CHEMICALS

PHARMA & BIOTECH

WATER SOLUTIONS

FOOD & BEVERAGE



STRONGER
NETWORKS



SHARED
KNOWLEDGE



SUSTAINABLE
GROWTH



www.ppmmai.org



sgppmai@ppmai.org

ENGINEERING INDIA'S
PROCESS INDUSTRY GROWTH

Index

Section	Title	Page No.
1	From Chairman's Desk	2-3
2	Instrumentation: The Senses of a Process Plant	4-7
3	Connecting the Dots: Instrumentation Interfaces	8-14
4	Excess Flow Check Valves	15-19
5	Engineers can't dance !	20-22
6	Bricks By BRICS : Building Globally Competitive India	23-25
7	HR Consultancy and Audit	26
8	Instrument Calibration – The Need of the Hour	27-31
9	Member Champion- Viral V Care	32-33
10	Member Champion - Multimax Engineering Works Pvt. Ltd.	34-36
11	Industry News	37-41
12	Tender Information	42-52
13	Project Information	53-59
14	Adv. Tariff	60

Editor's Declaration:

The views and opinions expressed in this Bulletin are those of the respective authors and contributors and do not necessarily represent the views of PPMAI.

While due care has been taken in compiling the content, PPMAI and the Editorial Team do not accept responsibility for any errors, omissions, or outcomes arising from the use of the information published.

The Editorial Team reserves the right to edit submitted material for clarity, style, and space. Reproduction of any content from this Bulletin is permitted only with appropriate acknowledgment and prior permission where applicable.

FROM CHAIRMAN'S DESK

Dear Members,

It gives me great pleasure to present the September edition of Indian Process Plant & Machinery Pulse.

The process plant and machinery industry has always been built on strong engineering fundamentals. But the meaning of good engineering itself is changing rapidly.

A pump is no longer just expected to pump. A heat exchanger is no longer judged only by its thermal performance. Equipment today is increasingly expected to communicate, generate data, provide diagnostics and become part of a larger intelligent plant.

This edition appropriately brings Instrumentation into focus — something that can rightly be called the senses of a process plant. As instrumentation moves from measurement to monitoring, prediction and intelligent decision support, the boundaries between mechanical engineering, instrumentation, automation and digital technologies are becoming increasingly interconnected.

For Indian manufacturers, this change presents an important opportunity.

For many years, our competitiveness was largely measured through cost, quality and delivery. These will always remain fundamental. But the next level of competitiveness will increasingly depend upon our ability to add technology, intelligence, reliability and engineering value to what we manufacture.

This becomes even more important as Indian companies look beyond the domestic market. Global customers do not merely look for a competitive price. They look for engineering capability, international standards, documentation, reliability, service support and confidence that the supplier can stand alongside them throughout the life of the equipment.

That is why I strongly believe that our ambition as an industry must continue to grow.

We should not remain satisfied with being good manufacturers. We must aspire to become globally respected engineering companies and brands.

PPMAI has an important role in this journey — by connecting our members, sharing knowledge, bringing industry experiences onto a common platform and creating opportunities for collaboration.

I am particularly happy that through this Bulletin we are also getting to know the capabilities and journeys of our fellow members. Every such interaction strengthens the network that PPMAI represents.

Technology will continue to change. Markets will continue to change. What will matter is our willingness to learn, adapt and move ahead together.
Connecting. Collaborating. Advancing Together.

With warm regards,



Sudhir Mutalik

Chairman : Process Plants and Machinery Association of India

Founder and Managing Director: Positive Metering Pumps (India) Pvt Ltd.

INSTRUMENTATION: THE SENSES OF A PROCESS PLANT

A process plant is all about its equipment – vessels, reactors, distillation columns, compressors, pumps, furnaces, heat exchangers and piping. These equipments build the plant but what makes them run efficiently and accurately to deliver the exact required output, considering all the process and environmental conditions? This is where the instrumentation is the key aspect.

Just as a human body without senses would be unable to understand its surroundings, recognize danger or respond intelligently, a process plant without instrumentation is much the same.

Instrumentation is the sensory system of the process industry. It enables a plant to observe the happening, interpret those conditions and, through control systems and final control elements, respond appropriately. The more accurately a plant can sense its own condition, the more safely, efficiently and reliably it can operate.

Instrumentation involves the use of sensors, measuring instruments, control devices, and related systems to monitor and control various process parameters.

Role of instruments in Process

A pressure transmitter can reveal a dangerous rise or fall long before the human eye notices anything unusual. Level instruments tell us what is happening inside a vessel that is completely opaque. Flowmeters quantify the flow of fluids through pipelines. A temperature transmitter can detect a few degrees of change inside a vessel/reactor. The process variables (pressure, level, flow, and temperature) are not only numbers that are displayed in the control room, but they are **sensory information**. These measurements form the plant's perception. The early perception can make the difference between routine operation and a major process upset.

Instrumentation as an Integral Part of Process Plant Equipment

Process plant equipment, such as vessels, pumps, compressors, and heat exchangers, are all associated with specific process parameters that need to be monitored and controlled. Accordingly, instrumentation is integrated with the equipment to facilitate the measurement, monitoring, and control of these parameters.

Thus, instrumentation is seen as an integral part of process equipment manufacturing. So, the equipment is no longer supplied merely as a mechanical asset; it is delivered as an **instrumented package** equipped with the respective sensors, transmitters, monitoring systems, and diagnostic capabilities.

Instrumentation – A Part of Predictive Maintenance

Today's Smart instrumentation is beyond just measurement. When connected with PLC, DCS, and other control systems, these instruments create an intelligent chain for the safe and efficient process:

Sense/Measure (transmitters, switches etc.)



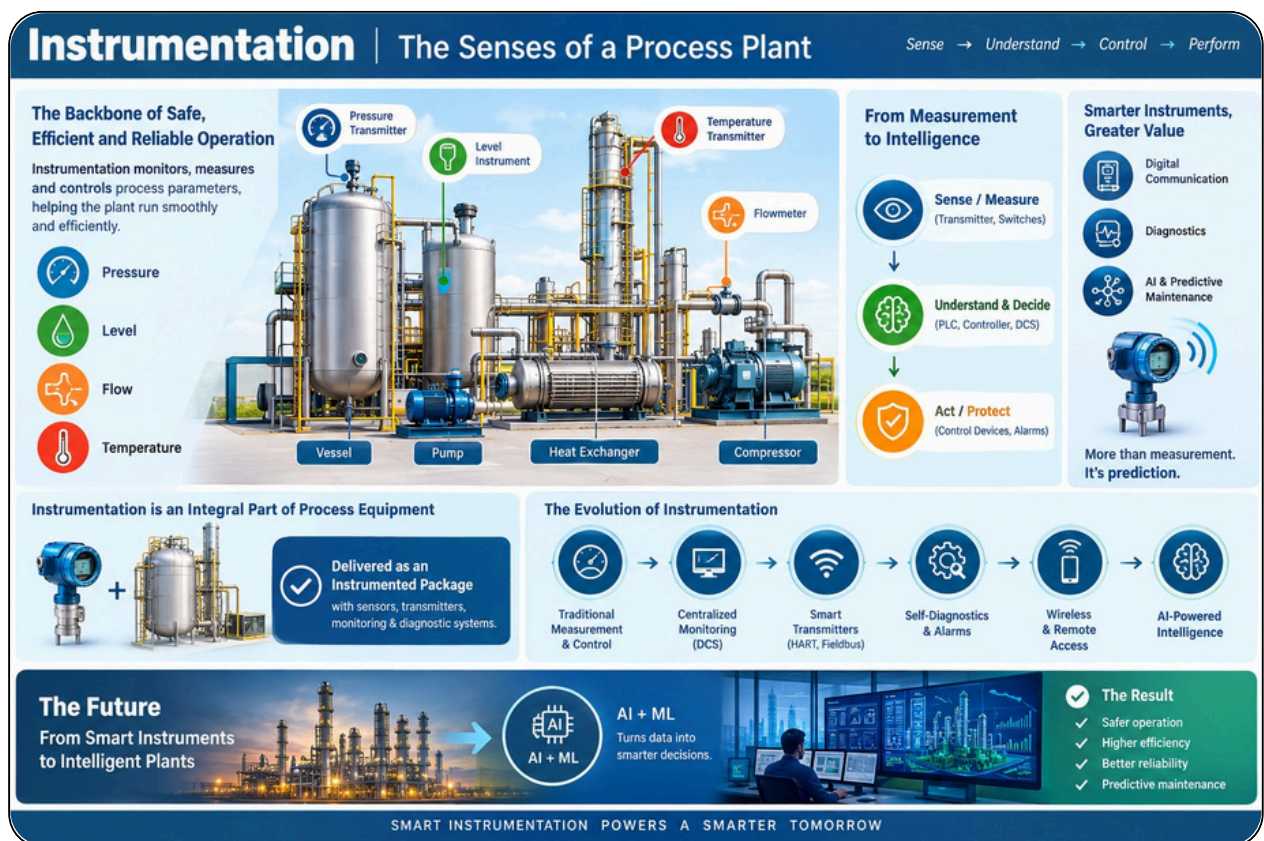
Understand and Decide (PLC, Controller, DCS etc.)



Act/Protect (Control devices, Alarms etc.)

They indicate and raise alarms for developing problems in advance so that proper maintenance can be planned before the equipment fails. Thus, instrumentation also becomes the part of predictive maintenance rather than simply process measurement.

Instrumentation has evolved from just measurement to prediction using smart transmitters, digital communication, diagnostics, AI, and predictive maintenance.



Evolution of Instrumentation in the Process Industry

Instrumentation in the process industry has undergone a major transformation and evolved significantly over the years. Earlier, instruments were primarily used for measurement and control. But now they have advanced into sources of real-time data, equipped with advanced diagnostics and SMART enough with intelligent capabilities that support better decision-making.

Evolution in Stages:

- Smart transmitters with DCS helped to evolve from local indication to centralized monitoring. All of the process variables can be monitored without physically visiting each and every instrument in the plant at different locations.
- 4–20 mA transmitters evolved into SMART transmitters (with HART, FOUNDATION Fieldbus, and PROFIBUS protocols), enabling them to communicate additional information such as diagnostics, device status, and configuration data along with the instrument signal.
- Smart instruments are equipped with self-diagnostic features. They identify their own abnormal sensor behaviour or other electronic problems and communicate them through error signals.
- Wired instrumentation has evolved into wireless instrumentation. Wireless instruments can communicate through technologies such as Wi-Fi and Bluetooth, making data easier to access. With the right setup, operators can even monitor instrument data remotely using their smartphones.
- Traditional Instrumentation to AI-Powered Instrumentation – Today, major global industrial instrumentation and automation brands, such as Emerson and ABB, are actively integrating AI and machine learning into their hardware and software offerings to enable real-world smart instrumentation. The AI-driven approach transforms basic measurement tools into smart, self-learning systems.

The evolution of instrumentation is a journey from measurement to intelligence. Earlier, instruments were primarily used to describe what was happening in the process; today's progressive modern instrumentation helps us understand why it is happening, predict what may happen next, and determine what action should be taken.

Evolution is an ongoing process that continues to unfold and bring something new over time. We are now in the era of AI (Artificial Intelligence), and its growing impact on instrumentation is something worth exploring.

The Future: From Smart Instruments to Intelligent Plants

The next significant step in this journey is making the entire plant more aware of itself with the help of smart instruments. Integration of AI (Artificial Intelligence) and ML (Machine Learning) are key factors that are being used nowadays to move ahead in this journey. With AI (Artificial Intelligence), instrument data can be analyzed continuously to identify patterns that may not be visible to an operator during normal operation. For example, changes in operating data such as pressure, temperature, flow, or vibration over a period of time may provide warning signs concerning the development of equipment degradation or process issues.

Here, the role of instrumentation is shifting a step closer to intelligent plants. The instrument is no longer only answering the question, “What is happening?” Additionally, it can answer, “Why is it happening?” and “What is likely to happen next?” This can support operators and maintenance teams in making faster and better-informed decisions. Therefore, the foundation of an intelligent plant will always remain accurate, reliable, and trustworthy instrumentation.

Kiran Kar
Asst. Manager (Instrumentation)
Positive Metering Pumps (India) Private Limited



CONNECTING THE DOTS: INSTRUMENTATION INTERFACES

THAT DRIVE PROJECT SUCCESS- LESSONS FROM THE FIELD: PART I

Introduction

Many times, **Instrumentation is considered a self-contained discipline**—often coming late in the project timeline and primarily expected to deliver instrument datasheets, cable schedules, layouts, and other engineering documents.

In practice, Instrumentation does not work in isolation.

Every instrumentation selection is an interface decision. It depends not only on the instrument itself, but on inputs from another discipline, another system, another part of equipment, or even an actual field condition. Instrumentation is a connecting and cleaning discipline which ensure overall plant success.



The most expensive instrumentation problems on a project rarely originate within instrumentation itself. They occur at the interfaces—where process data, piping details, equipment information, installation interface, control philosophy, vendor inputs, and field realities shall come together. When these connections fail, something inevitably falls through the cracks—and the cost can be far greater than the instrument itself.

There is a famous riddle attributed to **Ameer Khusro**:

घोड़ा क्यों अड़ा? — फेरा नहीं।
रोटी क्यों जली? — फेरी नहीं।

(Why did the horse balk? Why did the roti burn? — It wasn't turned over.)

In the same spirit:

Why did the instrument fail? —Required interface not done.

In a process plant, many instrumentation failures are not caused by the instrument itself, but by **missed or late interfaces** with other disciplines.

This article highlights **critical Instrumentation interfaces with six nos. of disciplines**. These interfaces are often overlooked, but failures of these can lead to **rework, project delays, additional costs, and safety risks**.

This is first part of the article where interfaces with three nos. of disciplines – Process, Mechanical and Civil -structural are covered. In the second part of the article interfaces with other balance disciplines shall be covered.

1. Process ↔ Instrumentation: The range and turndown trap, missing process data

The relationship between process engineering and instrumentation is supposed to be straightforward: process issues process operating conditions in the form of process data required for the type of instrument, instrumentation selects and ranges the device. In practice,

process data often changes due to process simulations, plant capacity improvements, or package vendor inputs—even after instrument datasheets have been issued for procurement.

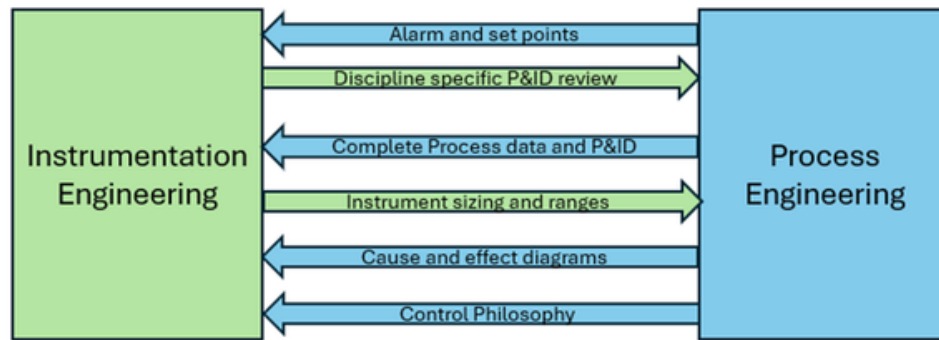
What goes wrong:

- A flow instrument is ranged and sized using early mass-balance data. As the project evolves, actual operating conditions and turndown requirements may change. What appeared to be a suitable instrument during design can then operate at the edge of its accuracy range or saturate during upset conditions.
- For gas applications, accurate base process conditions are essential for flow-element sizing. Even minor changes in pressure, temperature, molecular weight, or compressibility can affect the sizing and measurement accuracy.

- Instrument selection often requires process information beyond the basic pressure, temperature, and flow data. The required inputs depend on the instrument's working principle—for example, dielectric constant for radar level measurement, electrical conductivity for magnetic flow meters, and density and viscosity for averaging Pitot tubes. Thermowell selection also depends on process and fluid conditions, not just temperature.
- Pressure and temperature transmitter ranges are sometimes carried forward from a previous project on the assumption that the process conditions are similar. However, even minor changes in the current Heat and Material Balance (H&MB) can make the selected range unsuitable. The ranges should therefore be re-verified against the latest process data before procurement.
- Control valves – To ensure proper controllability during turndown, startup, and shutdown transients, all relevant flow cases—minimum, normal, and maximum—along with their corresponding upstream and downstream pressures, are required. Accurate fluid properties such as density, viscosity, vapor pressure, and critical pressure at the actual operating conditions are also essential. Missing or incorrect process data can lead to incorrect cavitation or flashing assessments, with the problem sometimes becoming apparent only during field commissioning.
- Any instrument sizing concern should be treated as an engineering interface issue and resolved jointly with the process engineer through technical evaluation, rather than being carried forward as an assumption. P&ID notes and process datasheet requirements shall be carefully reviewed and reflected in the final instrument selection and sizing.
- P&ID legends are sometimes carried forward from previous projects without sufficient review. Every legend, symbol, and abbreviation should be checked for relevance and consistency with the current project and verified against the detailed P&IDs. Lack of clarity in P&IDs can leave critical gaps in instrumentation and automation, resulting in missed signals, incorrect interfaces, rework, and commissioning challenges.

Why it happens: Process simulations may continue to evolve until very late in the engineering stage, incorporating changes in process requirements and package vendor inputs. Instrumentation datasheets, however, are procurement-critical and are often frozen early to protect vendor lead times. This creates two different timelines—so clear responsibility is essential to track changes, reconcile the differences, and keep the instrumentation design aligned with the process requirements.

Any revision to the process data and P&ID shall be clearly identified and communicated in time, so that its impact on instrumentation selection, sizing, and procurement can be assessed before it becomes a field problem. A proper change-tracking system is important to capture changes.



Cost impact: Adding extra signal cables, re-ranging and recalibration at site, valve trim changes, and, in the worst case, instrument replacement can be **extremely costly and time-consuming**.

How to close the gap: Instrument ranging, sizing should not be treated as a one-time activity completed when the datasheet is issued. It should be reviewed at defined P&ID/PFD revision milestones. Any process data change after IFD should trigger a formal impact review to confirm the instrument range, sizing, and selection remain suitable. Most importantly, the complete process information, signal interface information required for each instrument type and loop shall be available before final selection and procurement.

2. Instrumentation ↔ Mechanical: The Instrument–Nozzle coordination gap, sensor projections

Vessel and column nozzles designed by Mechanical are also important for Instrumentation. If instrumentation requirements are not considered early, changes often come after the vessel is already fabricated – leading to rework, delays, and extra cost.

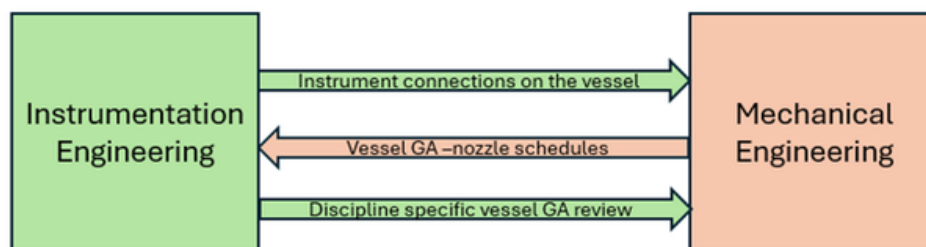
What Goes Wrong

- **Nozzle size and thickness:** Instruments mounted on vessel nozzles may extend inside the nozzle. The nozzle ID shall be checked against the instrument/sensor outer dimensions.
- **Wrong nozzle size or rating:** Vessel nozzles may be finalized before the instrument datasheet is ready, resulting in incorrect nozzle size, projection, flange rating, or process connection.
- **Instrument length vs. vessel internals:** Thermowell and sensor insertion lengths shall be checked against vessel diameter, coils, trays, agitators, and other internals to avoid interference, vibration, or inadequate insertion.
- **Nozzle projection and length:** For level instruments such as radar, DP, and displacer types, nozzle length and projection shall consider insulation, flange location, and required clearance inside the vessel.

- **Level bridle and gauge glass:** Nozzle locations, orientation and spacing shall match the actual instrument range, requirement of alarm and set points and mounting arrangement. If the nozzle orientation for level instruments is not coordinated early, it can result in site modifications, difficult access, and poor maintainability.
- **Missed instrumentation nozzles:** Additional nozzles or connections may be required later when instrumentation is added, causing costly modifications after the vessel drawing is already finalized.

Why It Happens

- Vessel GA drawings are often issued by mechanical/process on a schedule that runs ahead of instrument datasheet finalization.
- Nozzle schedule is treated as Mechanical-only: Instrumentation input is often limited to nozzle size and quantity, while important details like orientation, projection, insertion length, and accessibility are missed.
- No joint review of nozzle orientation: Instrumentation may review the vessel GA only after Mechanical has finalized the nozzle locations and dimensions.
- Thermowell and level instrument vendor data (often finalized only after PO) arrives after the vessel is already in fabrication.
- SIL/SIS-driven late additions (extra transmitters, voting logic requiring duplicate nozzles) aren't flagged early enough to mechanical.



Cost Impact

Interface failure results in rework on a fabricated vessel, project schedule slip, field modification costs, and instrument redesign which has heavy cost impact.

How to Close the Gap

Freeze instrument connections early: Share requirements with Mechanical, jointly review vessel GA/nozzle orientation, align vendor data, and verify fouling, clearance, accessibility, and maintainability.

3. Instrumentation ↔ Civil and Structural (CSA): timeline and pro-active interface matters

The interface between Civil & Structural (CSA) and Instrumentation is especially one of the important interface. As per the project schedule, CSA engineering usually progresses ahead of other disciplines. However, several instrumentation requirements are finalized later, such as: Control room and analyser room requirements, Local panel locations, Volume tank

locations, platforms for Instrument accessibility, and Heavy instrument and equipment loads etc.

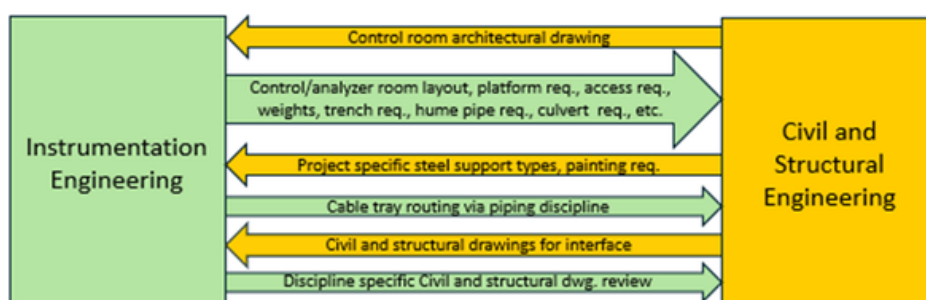
If these requirements are not communicated early, they can lead to structural modifications, rework, delays, and significant additional cost.

Therefore, CSA-Instrumentation interfaces shall be identified, coordinated, and reviewed proactively throughout the project—not only at the final stage.

What goes wrong:

- Providing the final control room size and cable entry requirements to Civil at a later stage can lead to interface issues, rework, and costly modifications.
- Local panel and junction box locations, instrument air volume tank's locations, instrumentation required maintenance platform are fixed by instrumentation without confirming structural.
- **Cable tray support types are not aligned with the overall structural support system.** Treating tray supports as a separate category can result in **additional steel, more supports, and higher project cost.**
- Instrument air header routing is planned late by piping based on later stage instrumentation inputs, after structural steel is already fabricated, leading to clashes that require field-routed air lines with more elbows and pressure drop than designed.
- Access platforms and ladders for high-mounted instruments (flare stack instruments, tall column-top transmitters) are sized for personnel access but not reviewed against the specific maintenance envelope needed to remove and replace the instrument.

Why it happens: Structural steel is usually designed and released early based on overall loading and project timeline requirements. Instrument and JB locations, control room size, volume tank weights, instrument orientation etc. are finalized later by Instrumentation. By then, the structural steel may already be fabricated, making changes difficult and costly.



Cost impact: Late civil and structural changes such as reinforcement, field modifications, additional maintenance platforms, or introducing a new category of steel supports can have a **significant cost impact** and may also cause construction delays.

How to close the gap: Interdisciplinary interface at every stage is required between Instrumentation and civil and structural for all related requirements. Early information of the requirement shall be conveyed as even preliminary to Civil and structural and re-ensure the final data information at every stage. Confirm access and maintenance envelope for elevated instruments during the 3D model review, not after platform steel is fabricated.

Instrumentation interfaces are fascinating. Many times, they take you on an enjoyable journey through the **ocean of engineering**, where Process, Mechanical, Electrical, Civil, Structural, and Piping all come together.

That is what makes Instrumentation more than just a discipline—it is **the connecting dots between disciplines.**



Preeti Raskar
Founder – Ryka Engineering Solutions
Mail ID: preeti.raskar@rykasolutions.com
Website: www.rykasolutions.com

EXCESS FLOW CHECK VALVES ---THE FIRST LINE OF DEFENCE

For stored pressurised liquids, gases, and liquefied gases

It's a standard practice to store fluids in both of its forms, that is liquid and gaseous form, in variety of tanks and different sizes. For example, industrial chlorine cylinder or any gas cylinder (though its not called a tank, technically) storing a few cu met to thousands of cu met capacity LNG tanks. The fluid can be Non-hazardous fluid Like CO₂ or can be poisonous gas like Chlorine, or flammable gas like propane or Hydrogen.

The product may be stored at near atmospheric pressure or at hundreds of bars, like hydrogen. Temperature can be ambient to sub-zero like minus162°C for LNG tanks.

In every case, the main concern is to ensure that the stored product never gets released to the atmosphere in uncontrolled manner, for any reason.

Every tank will have At least one inlet and one outlet. And they will be connected through pipeline to some other equipment. In addition to this, there can be vapour supply and pressure balancing lines also. Certain codes allow only one opening in the liquid portion of the tank, in order to reduce risk. The same to be used for filling, withdrawal, and even for drain, by proper piping connections.

Depending on the quantity stored and application, the pipeline length may be as small as few meters or may run to hundreds of meters.

Now, let us consider the situations under which the stored product will get released to the atmosphere accidentally and create Hazard in the surrounding.

1. Fracture in the tank
2. Bursting of the tank
3. Rupture in pipelines.
4. Accidentally, breaking. of flowing lines

First Two Possibilities are avoided by taking proper care at design stage , installation, operation and maintenance. Such instances are rare.

Third , and fourth situation are likely to arise more frequently and for many reason.

The question is in such situations, how to stop the flow at the earliest with minimum possible fluid reaching the atmosphere. Break in liquid lines are more serious. For liquefied gases, the situation is more critical, because the liquid evaporates to form gas by expanding hundreds of times. Ammonia expands 940 times. Methane 625 times.

If the flow is not stopped, the entire tank content may get released to the atmosphere and create catastrophe.

There are various approaches to avoid this.

1. Simplest thing is to close the nearest valve towards the upstream side. It may be close to trouble spot, or away from it.

If close to it, good; but that area might have become inaccessible because of the leaking product. The valve may be far away from that trouble spot, needing longer time to go and close it. But, one can say, it is good, because it is likely to be accessible.

2. Provide remote operated valves (ROV). at every opening of the storage tank. ROV can be electrically operated (with flameproof actuator) or can be pneumatically operated.

3. Provide Excess Flow Check Valves at the tank openings.

We are going to explore third option in little more details.

Let's start with the basics.

What is an Excess Flow Check Valve (EFCV)? What is its function?

As the name implies, EFCV 'checks' excess flow in one direction and allows free flow in other direction. A normal check valve, (NRV), allows free flow in one direction and zero flow in other direction. NRV is expected to be 'leak tight' in closed position. EFCV is designed to provide some leakage. When flow is towards the storage, it is "free flow" direction. (FF). When flow is from storage side, it is 'closing flow' direction. (CF)

When does EFCV close or Trip?

It will close when flow is in 'closing flow' direction and the flow rate is greater than the set flow rate, called the 'closing flow rate' (CFR).

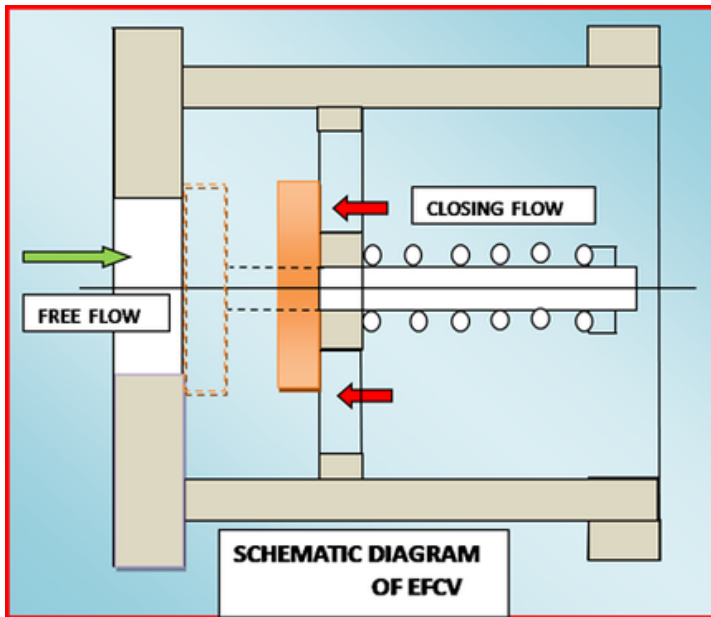
What is the construction?

A spring loaded disc stands in the flow path, wherein the force due to flow has a tendency of moving it towards the port, acting against the spring force, and close the port. But flow is not large enough to produce sufficient force. As flow rate increases, at certain flow rate, the force is large enough to overcome spring force and move the disc to close the port. That stops the flow. By compressing the spring suitably, this flow rate can be adjusted.

This is what happens when pipeline breaks. High differential pressure between tank and atmosphere, generates much higher flow rate than CFR, and the efcv closes. This is what is expected from it.

When and how efcv will open

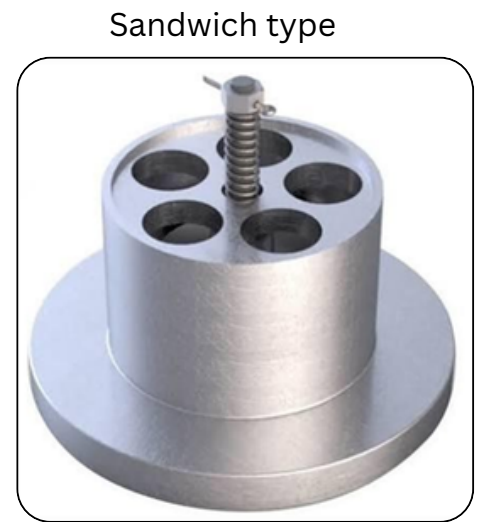
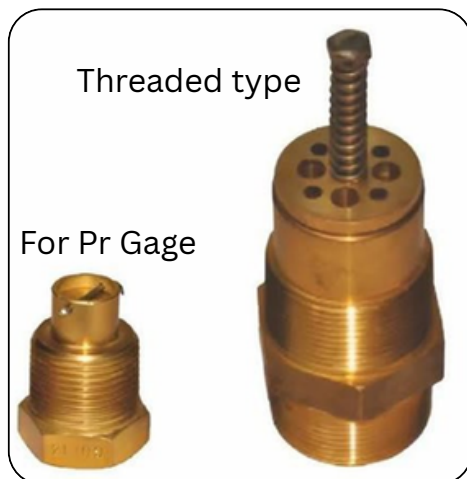
A small bleed hole is provided in the disc through which negligible but continuous leakage takes place. If leakage cannot be permitted, then a small bypass arrangement must be provided. When downstream side piping is refitted fully, it will collect this flow and build up pressure to equalise with tank pressure, efcv opens automatically.



Availability:

These valves are available with screwed or flanged end connection, in different MOC. Nominal sizes 3/4" to 12" or even 16" are available. Sandwich type efvc are also available. They are fitted inside the pipe and have a small flange for sandwiching between line flanges.

Closing flow rates for gases upto 75 nm³/hr. Custom set.



EFCV selection and sizing- Size will be generally equal to pipe line size. What is important is deciding proper CFR.

Manufacturer will need to know

- ☐ Fluid handled,
- ☐ Liquid or gas, or two-phase, operating P&T,
- ☐ Density at this P&T
- ☐ Max. normal flow rate .

CFR is set at 50% more than normal flow rate.

If CFR is set closer to normal flow rate, the valve may close if there is momentary increase in flow rate for some reason. CFR should always be volumetric units and not in weight units.

Important: Change in density for any reason, will affect functioning of existing efvc with certain set flow rate. So you cannot use same efvc for fluids with different densities, even though normal flow rates are same. For example, efvc set for propane will close at lesser flow rate if installed in butane-rich LPG line.

Special applications:

1. Transport vehicles should be provided with internal type efcv, wherein even if the valve body breaks away in accident, the automatic closing mechanism remains inside the tank. To enhance safety further, design of these valves combine a stop valve with it, have arrangement of remote closing, and closing in case of fire.

This design is known as Internal Valve. This is mandatory for transport tanks.

2. For opening provided for installing pressure gage, efcv with a simple design having small ball, is used. There is no continuous flow, however continuous communication must be maintained between tank vapor space and PG. Loosely fitting ball ensures this. If PG is removed with tank under pressure, the ball flies up due to gushing flow to close the opening.

Codes relevant to efcv:

In India, SMPV rules are established by PESO, to guide and control storage and transport of hazardous gases and liquids.

NFPA 58, 59 cover the same in USA. And EN 13175 in Europe.

SMPV rules- 2016, currently further amended till 2025, mention that efcv must be fitted at every opening on tank, larger than 1.4mm in liquid area and 8mm in vapour area. (Except for openings provided for relief devices). The code specifies this requirement as "emergency shut-off valve". ESV and efcv, Rov are accepted. For transport tankers, internal valves are mandatory. (Described above).

ESV is not required for vessels storing non-corrosive, non-flammable, non-toxic gases.

EFCV are installed in long pipelines also. PNGRB has made it mandatory to install efcv in last run of the pipeline before connection with flexible tube.

EFCV flow setting :

This is done for each valve using water as flow medium. Equivalent water flow is calculated based on density of fluid handled. If for gas, density of gas should be at the operating P&T.

EFCV are supposed to be retested periodically for closing flow rate.

Conclusion

EFCV are a part of mandatory fittings for vessels storing liquids, gases and liquefied gases under pressure. They automatically close when flow rate from vessels exceeds the set flow rate. This prevents the possibility of the entire tank contents getting released to atmosphere in case of breakage in connected pipeline and avoids the likely hazardous situation created thereby. They are directly fitted on to the tank without any isolation valves in between. The certifying authority will not issue safety certificate if EFCV are not installed on tank.

Fluid density and flow rate are most important parameters.



----- **Ashok Khopkar**
Independent consultant,
LPG storage and handling, Bottling

ENGINEERS CAN'T DANCE

While managers at companies big and small complain about not finding worthy employees, especially amongst the young, it is worth reversing the equation and asking: What do worthy young employees look for? Are the employers themselves worthy enough to attract and retain the right talent?

In most instances, both parties have work to do to make the workplace a worthwhile experience. I believe that the larger party must make the first move – the senior. I would like to share an experience from my university days.

My advisor, Dr Richardson, told me that even engineering students must still take a certain number of mandatory elective courses from the buffet of the Liberal Arts and Humanities department being offered at the University of Houston. I protested.

Dr Richardson was taken aback. He asked, “What do you mean - why? This institution requires all students to complete certain courses to secure a degree.

I continued, “As an international student, paying in dollars for each class is expensive. I am enrolled in engineering. What good are these English Literature, History, Political Science, Psychology, Philosophy, and Physical Education types of classes going to do? They have nothing to do with engineering.

Dr Richardson advised, “Listen, young man. You have no choice here. We believe that these courses have everything to do with your education. There may be some places where they don’t think it is important for students to be exposed to these subjects. This is not that place.”

I argued, “...but in India, when we do engineering, we only study subjects related to engineering.”

Dr Richardson smiled, “That is a problem that your education system needs to recognise. They produce engineers. We don’t.”

Now it was my turn to be taken aback.

He explained, "We make good citizens. In the Master's program, we offer just engineering. Anyone who loves pure engineering may pursue that. However, what are you going to do with just engineering class exposure in the Undergrad program? When you get out of college, you are surely not going to be wearing a badge announcing to the world that you are an engineer, are you? Engineering is your profession. However, your soft skills will decide how civilised you appear to others. You are a good son. Likewise, you should want to be a good father, neighbour, worker, colleague, and citizen leader. You need to be an asset to society. Kevin, we need you to be your larger self; stretch your mind and widen your horizon.

These courses will help you become more complete. The soft electives on offer complement the hard engineering subjects to transform students and develop their robust identities. Else, everyone will be just engineers, but fall short otherwise. Just relax and trust this beautiful program we designed for you."

The adage 'Only when the student is ready will the master appear!' fell on me like a ton of bricks.

I fell in line instantly.

Over time, I began to thoroughly enjoy those non-technical courses. Many years later, it dawned upon me that what Dr Richardson had offered me was America's secret sauce to success, which anyone can replicate.

Coming back, I ran an engineering company and was surrounded by technical folks who found comfort in math, in the metaphorical sense. I was an average employer, not good enough to retain staff, and I eventually hit an attrition crisis. At the time, I had turned introspective. That's when I remembered what I'd learned in college and decided to try it out.

It was time to introduce poetry to those comfortable with just numbers.

I started bringing in what I learned at the university, but through current news items, popular TED Talks, external speakers, external trainers, besides self-learning cum teaching. At first, it was frustrating, as the staff seemed at a loss for what hit them. Each session was then followed by participative discussions on how what we learned that day impacted our thinking, including the nation, society, and of course, the company. The invisible but tangible connection between our civilizational thought stream, heritage, culture, and the social, political, economic, legal, and technical aspects that collectively give rise to the spirit of the times and make for the nation's grand narrative became clear to the team. Over time, ours became a company with a strong learning culture, with every employee wanting to run to the "classroom."

Outcome: Even when we weren't signing the biggest pay cheques in the industry, we had a dream run of over a decade, with not a single employee leaving.

Each employee grew - mentally, emotionally, professionally. The team became cohesive and sensitive, expanding with new recruits coming through employee referrals, and productivity shot up. Our vendors and customers mentioned to me, unsolicited, that they could clearly see the difference and enjoyed interacting with our employees.

At a time when so many Bilateral Trade Agreements are coming to fruition, expect the economy to boom once the geopolitical environment turns a little more benign. Holding on to employees will be tough.

Be that employer that everyone wants to hold on to. Make yours a great place to work. That's your contribution to making ours a Viksit Bharat!

There's more to life than success, and if you can try to be more well-rounded, you'll be able to enjoy your success more. It won't own you or control you – Ricky Williams

About The Author

Kevin M. Shah is a Peer Thought Strategist. The university experience narrated in the article is an excerpt from his business autobiographical work, 'Unshackle The Elephant In The Mind.' Under his 'Mettle Works' programme, he engages with growth-focused entrepreneurial organisations in the MSME space. He specialises in an inside-out approach to establishing team alignment, culture, and strategy. His insights are rooted in 25-plus years of leading KEVIN Enterprises, a design & manufacturing company that makes mass transfer equipment.



BRICKS BY BRICS : BUILDING GLOBALLY COMPETITIVE INDIA



The recently concluded BRICS Summit and the New Delhi Declaration offer more than a diplomatic statement. For Indian industry, the Declaration deserves attention because it reflects many of the priorities that will determine India's economic journey in the coming decade — manufacturing, MSMEs, technology, agriculture, global trade and inclusive growth.

What is particularly encouraging is the confidence with which India is shaping this conversation.

For many years, MSMEs were largely discussed from the perspective of protection, concessions and financial support. The New Delhi Declaration presents a more ambitious approach.

It talks about MSME internationalisation, access to finance, technology adoption, manufacturing competitiveness and integration into global value chains.

The inaugural BRICS SME Forum held in Agra during India's Chairship is an important step in this direction. The establishment of the India Centre for BRICS Industrial Competencies further strengthens the focus on Industry 4.0, artificial intelligence and advanced manufacturing technologies.

This is an important change in mindset.

India does not merely need more MSMEs. India needs MSMEs that can compete with the best in the world.

For the process plant and machinery industry, this is particularly relevant. Our companies increasingly compete not only with domestic manufacturers but also with suppliers from Europe, China, Korea and other manufacturing economies. Quality, technology, standards, reliability and responsiveness will increasingly decide our place in global markets.

The Declaration also recognises industrial cooperation, digital transformation, standards and emerging technologies.

India has already demonstrated its ability to create products for the world. The next challenge is to build globally recognised Indian engineering brands.

Exports cannot remain an occasional opportunity arising from an enquiry received from another country. International business has to become part of corporate strategy. This requires preparedness – international certifications, stronger engineering capabilities, investment in R&D, participation in international exhibitions, understanding different markets and developing service capabilities beyond India's borders. Our aspiration should therefore move beyond simply saying Made in India. It should be:

Made in India, Trusted by the World.

Agriculture: Technology Meets the Farmer

Another important dimension of the Declaration is agriculture.

The establishment of the BRICS Agro-Inputs, Genetic Resources and Information Network (AGRIN), along with cooperation in digital agriculture, regenerative agriculture and new farming technologies, demonstrates how rapidly agriculture itself is becoming technology driven.

For industry, agriculture should not be seen as a separate part of the economy. Modern agriculture requires pumps, water-treatment systems, automation, instrumentation, food processing equipment, cold chains, energy systems and sophisticated engineering solutions.

The transformation of Indian agriculture can therefore create a significant new market for Indian manufacturing.

The emphasis on women-led development is equally noteworthy.

India's growth story cannot reach its full potential without significantly increasing women's participation in entrepreneurship, manufacturing, technology and leadership.

Women empowerment should therefore move beyond welfare or representation. The real transformation happens when women become entrepreneurs, engineers, managers, innovators, investors and decision-makers.

The BRICS initiatives on digital capacity building and sharing best practices can contribute to this transition.

For Indian industry too, this represents an enormous untapped opportunity.

Perhaps the larger message emerging from the Declaration is that economic growth cannot exist in isolated compartments.

Manufacturing needs technology. Technology needs skills. Agriculture needs engineering. MSMEs need finance and global market access. Women need opportunities to participate in economic value creation. And enterprises need an environment that encourages them to innovate, invest and grow.

These are interconnected pieces of the same development story.

India today has ambition, scale, entrepreneurial energy and an increasingly influential voice in global forums. The New Delhi Declaration reflects that growing confidence.

But declarations can only create direction. Enterprises have to create outcomes.

For Indian industry, therefore, the question is no longer whether opportunities will emerge.

They are already emerging.

The question is whether we are prepared to capture them.

As India moves towards Viksit Bharat, our industries — particularly MSMEs — must also redefine their ambition: from being small enterprises to becoming globally competitive enterprises.

The opportunity is expanding. Our preparedness, ambition and willingness to scale must expand with it.



Sudhir Mutalik
Founder and Managing Director
Positive Metering Pumps India Pvt Ltd.

HR AUDIT & LABOUR COMPLIANCE ADVISORY

Strengthen Compliance. Reduce Risk. Build Better Workplaces.



Is Your Organisation HR & Labour Law Compliant?

With the evolving regulatory framework and increasing focus on statutory compliance, organisations need to periodically review their HR systems, labour law compliance and industrial relations practices.

We provide Independent HR Audit & Compliance Advisory Services for:



Manufacturing Industries | Corporate Offices | SMEs | Industrial Establishments



OUR KEY SERVICES

- 1 Labour Codes
- 2 Comprehensive HR Audit
- 3 Statutory & Regulatory Compliance
- 4 HR Systems & Process Improvement



WHY CHOOSE US?

35+ YEARS OF HANDS-ON HR EXPERIENCE

Senior HR professional with extensive experience across **Specialty Chemicals, Packaging and Engineering Manufacturing Industries**, with expertise in:

Human Resources | Industrial Relations | Labour Compliance | Payroll | Contract Labour | Employee Relations | HR Policies



OUR APPROACH

AUDIT → IDENTIFY GAPS → ASSESS RISK → RECOMMEND → IMPLEMENT → MONITOR

We focus on **practical, business-oriented solutions**, helping organisations identify potential HR and statutory compliance risks before they become costly disputes, penalties or employee-relations issues.

Protect your organisation today – before a compliance issue becomes a business risk.



SATISHKUMAR P NAIR

Senior HR Professional | HR Audit & Labour Compliance Advisor

 **8921446361**

 aspirehrconsultants@gmail.com

Confidential | Independent | Practical | Manufacturing-Focused

“Good HR Compliance is not just about avoiding penalties – it is about creating a responsible, fair and sustainable workplace.”

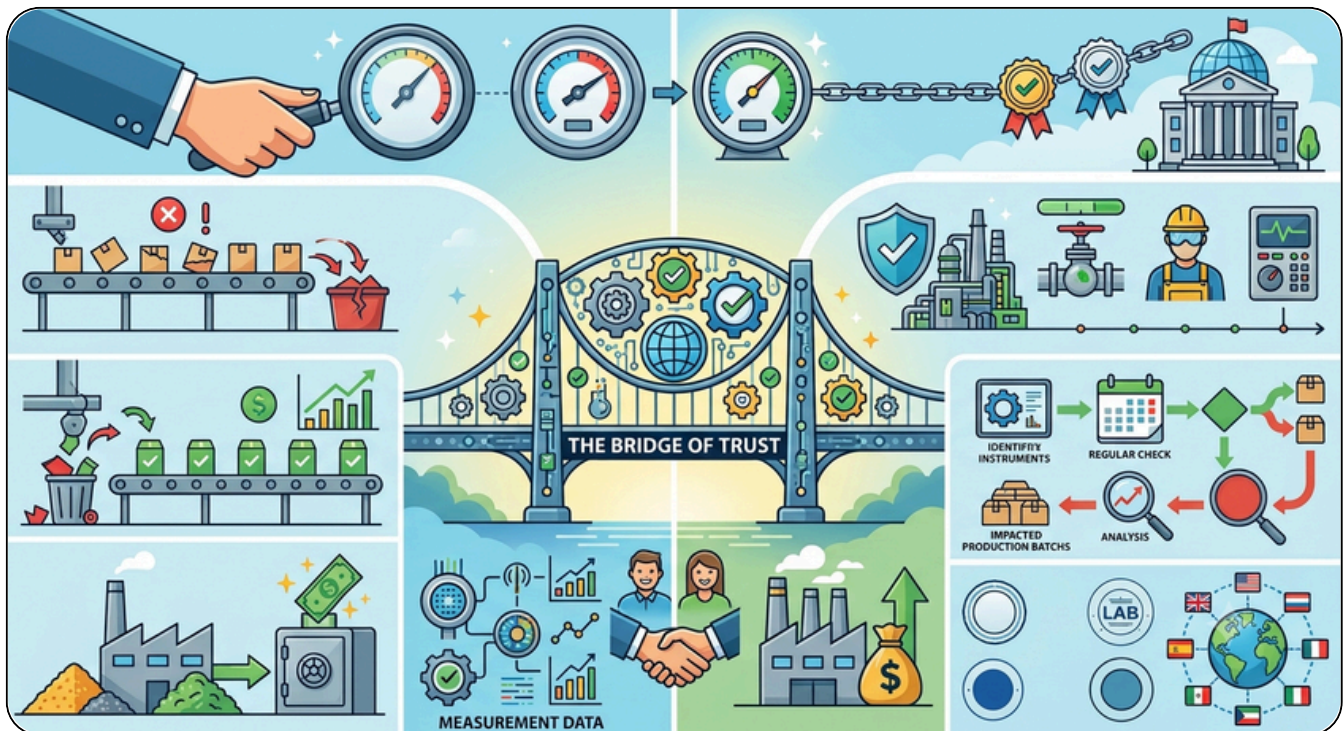
INSTRUMENT CALIBRATION - A NEED OF THE HOUR

Calibration is a fundamental requirement in modern industries to ensure accuracy, reliability, safety and consistent quality. Properly calibrated instruments provide accurate measurements, helping industries maintain data traceability from the measurement point to recognized standards. This traceability is essential for quality assurance, audits, regulatory compliance and informed decision making.

Regular calibration helps identify measurement deviations and potential equipment issues before they lead to failures. By integrating calibration with preventive maintenance, industries can reduce unexpected downtime, improve equipment reliability and ensure continual improvement.

Accurate instruments minimize errors, rework, material wastage and production interruptions. Consistent measurement enables processes to operate within defined parameters, resulting in higher productivity, improved product quality and better customer satisfaction.

Calibration ensures that machines, instruments and other resources perform at their intended accuracy. This optimizes the use of raw materials, energy, manpower and equipment while reducing unnecessary operating costs.



Calibration is a process of comparison of a measuring instrument [DUC] device under calibration with a reference instrument having accuracy better than three times of DUC Specified Accuracy and which Shall be Traceable to National / International standard through a unbroken chain of traceability.

Why is Calibration Important for Industry?

Industrial processes depend heavily on measurement. A small measurement error can sometimes remain unnoticed, but its consequences can become significant when that error affects an entire production process. Consider a simple example. Suppose a furnace is intended to operate at 800°C, but the temperature-measuring instrument is actually reading 20°C higher than the true temperature. The operator may believe that the process is running correctly while the actual process temperature is only 780°C. The result could be inadequate heat treatment, rejected products, customer complaints or even premature failure of the final product. Similarly, an incorrect pressure gauge can result in a process being operated outside its intended limits. An inaccurate weighing instrument can affect the quantity of raw material used. An incorrect dimensional instrument can lead to components being manufactured outside tolerance.

Calibration and Quality

Quality systems ISO 9001 place significant importance on reliable measurement system where as ISO/IEC 17025 provides technical requirements and is prescriptive to build confidence on the measurement and the organisation DKD-R-6-1 , Euramet and NABL -129 provide guidelines for calibration while IS standards give manufacturing requirements . These legal requirements need to be followed in calibration. An organisation cannot consistently produce quality products if it cannot trust the instruments used to inspect and control those products.

Calibration helps industries to:

- ☐ Verify the accuracy of measuring instruments.
- ☐ Maintain confidence in inspection and testing results.
- ☐ Detect measurement errors before they affect production.
- ☐ Demonstrate compliance with customer and regulatory requirements.
- ☐ Maintain measurement traceability.
- ☐ Support audits and quality management systems.
- ☐ Reduce the risk of defective products reaching customers.

For a quality-conscious organisation, calibration is therefore not simply a compliance requirement. It is a **risk control mechanism**.

The Commercial Importance of Calibration

Calibration also has a direct financial impact. At first glance, calibration may appear to be an expense. However, the cost of not calibrating an instrument can be much higher.

Imagine a manufacturing company producing 10,000 components based on measurements from an instrument that is later found to be inaccurate. The organisation may have to inspect or rework the entire production lot. In extreme cases, products may have to be recalled from customers. The consequences may include:

Rejection + rework + scrap + production loss + customer complaints + warranty cost + loss of reputation.

Calibration can help prevent such losses by identifying measurement errors before they become expensive quality problems.

It also helps optimise processes. Accurate measurements allow industries to control raw-material consumption, process parameters and product dimensions more effectively.

In this sense, calibration is an investment rather than merely an expense.

Calibration and Safety

Perhaps the most important aspect of calibration is **safety**.

Many industrial safety systems depend on measurement instruments. Pressure gauges, temperature sensors, transmitters, safety switches, electrical measuring instruments and other devices can provide critical information to operators and control systems.

An incorrect measurement can result in an incorrect decision.

For example, if a pressure-indicating device under-reads the actual pressure in a vessel, an operator may believe that system is operating safely when the actual pressure is on higher side.

Similarly, inaccurate temperature measurement in a critical process can create unsafe operating conditions. Calibration therefore contributes to preventing situations in which people, equipment, environment or production may be exposed to unnecessary risk.

Calibration is More Than a Certificate

One common misconception is that calibration is complete once a calibration certificate has been received , but In reality , an effective calibration programme involves much more.

An organisation should identify which instruments require calibration, define appropriate calibration intervals, establish acceptance criteria, maintain identification and status of instruments, ensure proper handling and storage, and evaluate the impact when an instrument is found to be out of tolerance.

The calibration certificate should provide useful information such as the instrument identification, measurement points, reference standards, observed errors, uncertainty where applicable, environmental conditions and traceability information.

Most importantly, organisations should **use the calibration results to make decisions**.

If an instrument is found outside its permissible tolerance, the question should not simply be, “Can we adjust it?”

The more important question is:

“What products or processes were affected while this instrument was being used?”

This approach converts calibration from a routine activity into an effective quality-control tool

How Often Should Instruments Be Calibrated?

There is no universal calibration interval that is ideal for every instrument. The appropriate interval can depend on several factors, including instrument type, accuracy, frequency of use, operating environment, stability, manufacturer recommendations, calibration history etc.

A critical instrument used continuously in a demanding environment may require more frequent verification than an instrument used occasionally under controlled conditions. Historical calibration data can also help organisations establish risk-based calibration intervals.

Building a Culture of Measurement Confidence

The ultimate objective of calibration is not to collect certificates. It is to create confidence in measurement. Every organisation should be able to answer three basic questions:

Is the instrument suitable for the measurement?

1. Is the measurement reliable?

2. Can we demonstrate confidence and traceability in the result?

When the answer to these questions is yes, measurement becomes a powerful tool for controlling quality, improving productivity and managing risk.

Conclusion

In today's competitive industrial environment, quality cannot be inspected into a product at the end of the manufacturing. It has to be built into the process and reliable measurement is an essential part of that process.

From a **commercial perspective**, it helps prevent rejection, rework, scrap and customer dissatisfaction.

From a **safety perspective**, it helps ensure that critical process parameters are measured reliably.

And from a **management perspective**, it provides confidence that decisions are being made using dependable information.

Therefore, calibration should not be viewed as just another compliance activity or a yearly maintenance task.

Calibration is the bridge between measurement and confidence.

And in industry, where every decision depends on measurement, confidence is ultimately what protects **quality, safety, productivity, profitability and reputation**.

Calibration and measurement capabilities are accredited to ISO/IEC: 17025:2017 by an accreditation body subject to the ILAC [International Laboratory Accreditation Cooperation] arrangements or to APLAC [Asia Pacific Laboratory Accreditation Cooperation] . Scope of such accredited laboratories are publicly available from respective accreditation bodies.

In INDIA, NABL [National Accreditation Board for Testing and Calibration Laboratories] provides such accreditation to qualifying calibration Laboratories and grants the scope . NABL has developed their own guidelines NABL:129 to aid laboratories meet the standard requirements. Worldwide there are many such accreditation bodies meeting ILAC or APLAC guidelines .

Calibration by a ISO/IEC 17025:2017 is valid throughout the 173 Countries across world and provides assurance in quality and reliability of measurement . Acumen Tech Sol Pvt Limited is a NABL accredited calibration lab providing services for last 25 years to industries in Oil & gas , offshore , fabrication , pharma sector . Few names are HPCL , Larsen Toubro , BPCL , Baker Hughes , NOV India , Halliburton , Johnson Matthey , Owens Corning , Deepak Fertilizers , Cadbury , Siemens .

Article by



Vilas Vitkar
Director , Acumen Tech Sol Pvt Ltd
Navi Mumbai 400 705



Viral V Care

Viral V Care is a leading manufacturer, exporter, and solution provider of advanced industrial piping systems with over 2 decades of expertise and 10,000+ successful installations across diverse industries. We deliver innovative, corrosion-resistant, energy-efficient, and maintenance-free piping solutions for pharmaceuticals, chemicals, HVAC, textiles, food processing, commercial buildings, and process industries. Our product portfolio includes industrial piping systems, specialized valves, modular support systems, and customized utility solutions. Driven by continuous R&D and engineering excellence, we help customers reduce maintenance costs, improve operational efficiency, and achieve long-term reliability through quality products, technical expertise, and timely project execution.



**PIPE RANGE FOR
AIR, WATER, CHEMICAL**

EUROAQUA PPR Glass Fiber PPH	NEW LAUNCH	(-5° to 110°)
EUROAQUA PPRCT FRP Industrial Pipe		(-5° to 95°)
Arguard Thermo King PPRCT FRP Industrial Pneumatic Pipe		(-5° to 95°)
PLUMtek PERT Industrial Pipe		(-40° to 95°)
EUROAQUA PPH FRP Industrial Pipe		(-5° to 110°)



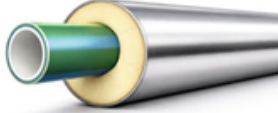
SPECIALISED PIPE FOR PROJECTS

**PPR & PERT Antistatic
Conductive and Pre-insulated Pipes**

EUROAQUA PPRCT FRP Antistatic, Conductive Pipe	(-5° to 95°)
PLUMtek PERT Antistatic, Conductive Pipe	(-40° to 95°)



Preinsulated Pipe



Preinsulated
Fire Proof Pipe

ELECTROFUSION

The new standard in industrial piping
**BEYOND WELDING.
 WE FUSE EXCELLENCE.**

Electrofusion is not an option — It's the standard.

63 mm & Above
(Electrofusion Only)



Why ELECTROFUSION?

- Molecular-Level Bonding
Creates a homogeneous joint stronger than the pipe itself.
- Zero-Leak Reliability
Computer-controlled welding eliminates human error & cold joints.
- High-Pressure Ready
Designed for critical industrial fluids & compressed air lines.

Ideal Applications

- Industrial compressed air systems
- Chemical & process pipelines
- High-pressure utility lines
- Large-diameter PPR networks

VIRAL V Care

UTILITY PIPING SYSTEM

500mm cooling tower header pipe



VIRAL V Care

METALLIC VALVES

Specially Design for Pharmaceutical, Food and Chemical Applications









VIRAL V Care

NON-METALLIC VALVES

Specially Design for Pharmaceutical, Food and Chemical Applications









Mr. Viral Bulsara

Email: vbulsara6868@yahoo.com

Contact: +91 9376795680

Website: www.viralvcare.com www.viralenterprise.co.in



Multimax Engineering Works Pvt. Ltd.

High-Performance Heat Transfer Solutions for Critical Industries

Founded in 1978, Multimax Engineering Works Pvt. Ltd. began with a singular vision: to become India's most reliable partner for advanced heat transfer solutions. Nearly five decades later, from our manufacturing facility on the Delhi-Meerut highway at Partapur, Meerut, we have grown into a preferred design and manufacturing partner for heat exchangers for refineries, petrochemical plants, fertilizer units and EPCs across India and, increasingly, overseas.

Multimax specializes in Shell & Tube and Fin Type Heat Exchangers across a wide range of metallurgies – Carbon Steel, Stainless Steel 304/316, Low Alloy Steel, Duplex and Super Duplex, Copper alloys, Clad construction and more – built to TEMA, ASME and IBR standards. With over 2,000 heat exchangers installed and counting, our equipment runs in some of India's most demanding process environments, including projects for IOCL Paradip Refinery, IOCL's BS-VI programme, BPCL's Integrated Refinery Expansion at Kochi, HPCL Vizag, and HMEL Bhatinda.

What Sets Us Apart

Design, Delivery, and Technical Depth are the three pillars of the Multimax proposition. Unlike many fabricators who outsource engineering, we carry out both Thermal (in-house, using HTRI) and Mechanical design under one roof – giving us tighter control over performance guarantees, schedule, and cost. Our leadership and engineering teams bring decades of experience from organisations such as L&T and ISGEC, and our shop floor of roughly 50 core staff supported by 125+ skilled workers consistently delivers on-time performance of around 85%, well above the industry average of 40–45%.

We are certified to ISO 9001, ISO 14001 and ISO 45001, hold the ASME U Stamp, and are an approved vendor with Engineers India Limited (EIL) and Projects & Development India Limited (PDIL) – credentials that open the door to India's largest refinery, petrochemical and fertilizer projects as well as global work.

Our project execution runs on SAP ERP backbone, giving us real-time visibility into project management, inventory and finance across every job on our shopfloor. This systemized approach to planning and tracking is a key reason we deliver our projects on time, every time.

Lean Manufacturing is a way of life on our shopfloor, not a slogan. We continuously work to eliminate waste across our production sections – from material planning through shell fabrication, machine shop, bundle assembly and hydro-testing – and this discipline underpins the delivery reliability we're known for. We have also invested in an AI-driven training programme for our graduate engineer trainees and shopfloor teams, using structured digital modules to accelerate onboarding on company processes, safety practices and lean fundamentals – ensuring every new hire is productive faster and aligned with our quality culture from day one.

Looking Outward

As domestic order inflow from Oil & Gas and Fertilizer sectors comes under pressure from aggressive reverse-auction tendering, Multimax has deliberately pivoted toward export markets and new domestic sectors. We have ventured into exports to the Middle East and Africa, while also building our presence in Chemical, Power & Waste Heat Recovery – sectors where our metallurgical range and design capability translate directly into value.

Our Key Products & Services

- Shell & Tube Heat Exchangers
- Fin Type / Air-Cooled Heat Exchanger Bundles
- Pressure Vessels
- Double Pipe Heat Exchangers
- Heat Transfer Skids
- In-house Thermal (HTRI) & Mechanical Design
- Replacement Bundles for Existing Air Fin Coolers



Sulphur Condenser



Caustic Wash Column



Column



Heat Exchanger

Engineered for Global Performance

Multimax Engineering Works Pvt. Ltd.

A-6, Industrial Estate, Partapur, Meerut, Uttar Pradesh – 250103

Website: www.multimax.in

Email: info@multimax.in | vibhoragrawal@multimax.in



Reliance Proposes ₹2.73 Lakh Crore Underground Coal Gasification Project in Andhra Pradesh

Reliance Industries Ltd (RIL) has proposed an investment of approximately ₹2.73 lakh crore over 30 years to develop an integrated Underground Coal Gasification (UCG) complex in Eluru district, Andhra Pradesh. The project will be developed using coal resources from the Chintalapudi and Recherla blocks, which RIL recently secured through a coal-block e-auction.

The project is planned in three phases. RIL proposes to invest up to ₹3,000 crore during the exploration and pilot phase from Q3 2026 to Q4 2027. Subject to successful exploration and commercial viability, around ₹1.20 lakh crore will be invested during the development phase between 2028 and 2030, followed by ₹1.50 lakh crore in the production phase from 2030 onwards.

The UCG complex will convert deep underground coal into syngas, which can be used to produce hydrogen, methanol, ammonia, synthetic natural gas and other industrial products. The project could create 3,000–5,000 direct jobs and 20,000–35,000 indirect and induced livelihoods.

Karnataka Approves ₹29,679 Crore Investment Package, Promising 66,000 Jobs

Karnataka has approved 17 investment proposals worth ₹29,679 crore, reinforcing the state's position as India's leading destination for industrial and technology-led growth. The approvals were granted by the State High-Level Clearance Committee and cover nine new projects along with eight expansion proposals.

Together, the projects are expected to generate 66,360 jobs across Karnataka. The proposed investments span important sectors, including renewable energy, electronics, mobility, aerospace and advanced manufacturing. This diversified mix reflects the state government's effort to attract capital into both established industries and emerging areas with long-term growth potential.

Among the companies associated with the approved proposals are Hero Future Energies, Vibrancy Renewable Energies, Mahindra Aerostructures and Toyota Kirloskar. Their participation highlights Karnataka's appeal to businesses seeking access to skilled workers, industrial infrastructure and a well-developed innovation ecosystem.

Assam Unveils ₹50,000 Crore Development Push, With Solar and Battery Project at Its Core

The Assam government has approved the ₹50,000 crore “Viksit Assam” development programme, a broad investment initiative intended to strengthen the state’s renewable-energy capacity, healthcare system and public infrastructure.

A confirmed component of the programme is an integrated clean-energy project in Goalpara district. It will combine a 30 MW solar power plant with a 25 MW battery-energy-storage system capable of storing 100 MWh of electricity. The facility is planned for the Rakhyasini Jungle Block under the Matia Revenue Circle.

Pairing solar generation with battery storage should allow electricity produced during sunny periods to be retained and supplied when demand is higher or solar output declines. The project could consequently improve grid reliability while supporting Assam’s transition toward lower-carbon sources of electricity.

The wider Viksit Assam programme also includes investment in healthcare and other public-development projects. Details concerning the allocation of funding among sectors, implementation schedules and individual contractors are expected to determine its eventual economic effect.

Importantly, the announced ₹50,000 crore represents the value of the overall development programme. It should not be interpreted as the investment assigned exclusively to the Goalpara solar and battery facility; a separate cost for that energy project has not yet been disclosed.

KEI Industries Expands Sanand Greenfield Cable Plant; Capex Crosses ₹1,700 Crore

KEI Industries is progressing with its major greenfield cable manufacturing facility at Sanand, Ahmedabad, Gujarat, as part of a broader strategy to expand production capacity and strengthen its position in domestic and international wire and cable markets.

The Sanand facility is being developed as an integrated manufacturing complex capable of producing Low Tension (LT), High Tension (HT), Extra High Voltage (EHV), E-beam and HVDC cables. KEI has said the project will eventually enable it to manufacture a broad range of cable products at a single location.

The project has already moved beyond the initial construction stage. Commercial production of LT and HT cables commenced in December 2025, while additional capacities are being commissioned in phases. The company expects the EHV cable facility to become operational by Q4 FY2026-27.

Importantly, the latest company-linked disclosures indicate that the overall Sanand project is substantially larger than the previously cited ₹1,000 crore figure. KEI's monitoring report refers to total planned capex of around ₹1,450 crore from QIP proceeds, while recent industry reporting says cumulative expenditure on the Sanand facility had reached approximately ₹1,722 crore by June 2026.

Andhra Pradesh Clears ₹2.08 Lakh Crore Investment Package Across 25 Industrial Projects

The Andhra Pradesh State Investment Promotion Board (SIPB) has approved 25 industrial projects with a combined investment of around ₹2.08 lakh crore, with the proposals expected to generate 21,627 direct employment opportunities across the state.

The approvals were granted during the 20th SIPB meeting, chaired by Chief Minister N. Chandrababu Naidu in Amaravati. A significant share of the proposed investment is concentrated in the data-centre sector, with three projects planned in Visakhapatnam and Anakapalli accounting for approximately ₹1.75 lakh crore, or more than 84% of the total investment.

Among the largest proposals is ReNew AP Green Data Center, which plans to invest ₹85,200 crore in Anakapalli, creating around 1,880 jobs. Data Center Holdings India has proposed a ₹58,743-crore facility in Visakhapatnam, expected to provide 1,250 jobs, while AM Intelligence Labs will invest ₹31,387 crore in Visakhapatnam and generate approximately 1,000 jobs.

Other significant investments include Waaree Clean Energy Solutions' ₹15,000-crore project in Kakinada, expected to create 1,500 jobs, and Agastya Green Energy's ₹7,799.96-crore project in Kurnool, with around 1,000 employment opportunities.

Several additional projects will strengthen Andhra Pradesh's renewable energy, manufacturing, mining and industrial sectors. Coromandel International will invest ₹2,125 crore in Srikakulam, while Akshat Green Tech and Jackson Green Renewable have proposed investments of ₹1,600 crore and ₹1,533 crore respectively.

In terms of employment generation, AIL Dixon India's ₹450-crore electronics project at Kopparthi in Kadapa stands out, with a commitment to create 7,000 jobs, the highest among the approved projects. VPR Mining Infrastructure's ₹500-crore industrial park in Nellore is expected to create another 2,000 jobs.

The government is also encouraging investments in emerging sectors such as green ammonia, lithium batteries and robotics. Munoth Lithium Battery plans to invest ₹500 crore in Tirupati, creating 240 jobs.

Suzlon Plans ₹10,000 Crore Renewable Energy Expansion in Andhra Pradesh

Wind energy major Suzlon Group is set to significantly expand its renewable energy footprint in Andhra Pradesh with a proposed investment of around ₹10,000 crore. The investment forms part of the company's broader growth strategy for the state and is expected to accelerate the development of new wind and renewable energy projects.

The planned expansion is projected to generate approximately 4,000 direct and indirect employment opportunities, providing a boost to local economic activity and creating demand across the renewable energy supply chain, including construction, engineering, logistics, operations and maintenance.

As part of its long-term vision, Suzlon is targeting the development of an additional 5 GW of renewable energy capacity in Andhra Pradesh by 2030. The proposed capacity addition is expected to strengthen the state's position as an important hub for renewable power generation and support India's transition towards cleaner energy sources.

Suzlon already has a substantial presence in Andhra Pradesh, with more than 1,700 MW of installed wind power capacity across the state. The proposed investment will build on this existing portfolio and deepen the company's engagement with the state's renewable energy sector.

The expansion comes amid growing demand for renewable electricity and increasing investments in wind and hybrid power projects across India. Suzlon's planned ₹10,000-crore investment could therefore create opportunities for EPC contractors, equipment manufacturers, infrastructure companies, transmission developers and renewable energy service providers.

With its ambitious 5 GW capacity target by 2030, Suzlon's Andhra Pradesh expansion is likely to become a significant contributor to the state's renewable energy growth and India's broader clean-energy ambitions.

L&T Gets LNTP for NTPC's 1,600 MW Lara Stage-III Thermal Power Project

L&T Energy CarbonLite Solutions has received a Limited Notice to Proceed (LNTP) from NTPC Ltd for the main plant package of the 2×800 MW Lara Stage-III thermal power project in Chhattisgarh.

The project will add 1,600 MW of generation capacity to India's power grid and represents L&T's third ultra-supercritical thermal power project awarded by NTPC in the past two years.

Under the EPC contract, L&T will undertake the engineering, procurement, manufacturing, supply, erection, testing and commissioning of two 800 MW ultra-supercritical units. The scope covers boilers, steam turbines, generators, electrostatic precipitators, air-cooled condensers and associated mechanical, electrical, control, instrumentation and civil works.

The formal Notice to Proceed will follow after obtaining environmental clearance and completion of the LNTP period.

The project's ultra-supercritical technology is expected to improve generation efficiency and reduce specific emissions while providing reliable baseload power to support India's growing electricity demand.

Reliance Proposes ₹2.73 Lakh Crore Underground Coal Gasification Project in Andhra Pradesh

Reliance Industries Ltd (RIL) has proposed an investment of approximately ₹2.73 lakh crore over 30 years to develop an integrated Underground Coal Gasification (UCG) complex in Eluru district, Andhra Pradesh. The project will be developed using coal resources from the Chintalapudi and Recherla blocks, which RIL recently secured through a coal-block e-auction.

The project is planned in three phases. RIL proposes to invest up to ₹3,000 crore during the exploration and pilot phase from Q3 2026 to Q4 2027. Subject to successful exploration and commercial viability, around ₹1.20 lakh crore will be invested during the development phase between 2028 and 2030, followed by ₹1.50 lakh crore in the production phase from 2030 onwards.

The UCG complex will convert deep underground coal into syngas, which can be used to produce hydrogen, methanol, ammonia, synthetic natural gas and other industrial products. The project could create 3,000–5,000 direct jobs and 20,000–35,000 indirect and induced livelihoods.



Chennai Metro Rail Limited||Rolling Stock Department - CMRL

Basic Details			
Organization Chain	Chennai Metro Rail Limited Rolling Stock Department - CMRL		
Tender Reference Number	CMRL / PHASE 1 / SYS / ARE05 / 2025		
Tender ID	2025_CMRL_886623_1	Withdrawal Allowed	Yes
Tender Type	Global Tenders	Form of contract	Works
Tender Category	Works	No. of Covers	2
General Technical Evaluation Allowed	No	ItemWise Technical Evaluation Allowed	No
Payment Mode	Offline	Is Multi Currency Allowed For BOQ	Yes
Is Multi Currency Allowed For Fee	No	Allow Two Stage Bidding	No

Tender Fee Details, [Total Fee in ₹ * - 40,000]			
Tender Fee in ₹	40,000		
Fee Payable To	CMRL	Fee Payable At	CHENNAI
Tender Fee Exemption Allowed	No		

EMD Fee Details			
EMD Amount in ₹	240,000,000	EMD Exemption Allowed	No
EMD Fee Type	fixed	EMD Percentage	NA
EMD Payable To	CMRL BANK ACCOUNT	EMD Payable At	CHENNAI

Work /Item(s)					
Work Description	DESIGN MANUFACTURE SUPPLY TESTING COMMISSIONING OF STANDARD GAUGE METRO ROLLING STOCK (ELECTRICAL MULTIPLE UNITS) AND DEPOT MACHINERY and PLANT AND TRAINING OF PERSONNEL				
Pre Qualification	Please refer Tender documents.				
Tender Value in ₹	NA	Product Category	Miscellaneous Works	Sub category	NA
Contract Type	Tender	Bid Validity(Days)	180	Period Of Work(Days)	NA
Location	Chennai	Pincode	600035	Pre Bid Meeting	CHENNAI METRO RAIL LIMITED
Pre Bid Meeting	CHENNAI METRO RAIL	Pre Bid Meeting Date	22-Dec-2025 11:00 AM	Bid Opening Place	CHENNAI METRO RAIL LIMITED, METROS
Should Allow NDA Tender	No	Allow Preferential	No		

Critical Dates			
Publish Date	21-Nov-2025 6:00 PM	Bid Opening Date	23-Oct-2026 4:00 PM
Document Download / Sale Start Date	31-Jul-2026 6:00 PM	Document Download / Sale End Date	23-Oct-2026 3:00 PM
Clarification Start Date	30-Dec-2025 6:00 PM	Clarification End Date	30-Mar-2026 6:00 PM
Bid Submission Start Date	01-Oct-2026 5:00 PM	Bid Submission End Date	23-Oct-2026 3:00 PM

New Mangalore Port Trust||Mechanical Engineering Department-HQ- NMPT

Basic Details			
Organisation Chain	New Mangalore Port Trust Mechanical Engineering Department-HQ- NMPT		
Tender Reference Number	CME-10/2025-26 DATED 31.01.2026		
Tender ID	2026_NMPT_896347_1	Withdrawal Allowed	Yes
Tender Type	Open Tender	Form of contract	Works
Tender Category	Works	No. of Covers	2
General Technical Evaluation Allowed	No	ItemWise Technical Evaluation Allowed	No
Payment Mode	Offline	Is Multi Currency Allowed For BOQ	No
Is Multi Currency Allowed For Fee	No	Allow Two Stage Bidding	No

Tender Fee Details, [Total Fee in ₹ *- 23,600]			
Tender Fee in ₹	23,600		
Fee Payable To	FACAO	Fee Payable At	PANAMBUR
Tender Fee Exemption	No		

EMD Fee Details			
EMD Amount in ₹	8,251,000	EMD Exemption	No
EMD Fee Type	fixed	EMD Percentage	NA
EMD Payable To	FACAO	EMD Payable At	PANAMBUR

<u>Work /Item(s)</u>					
Work Description	Request for Proposal (RFP) for Concessioning of Berth No. 13 for Handling Liquid Bulk/LPG/Chemicals/POL Products on Captive Basis at New Mangalore Port				
Pre Qualification Details	As per RFP				
Independent External	Applicable.				
Tender Value in ₹	699,200,000	Product Category	Oil/Gas	Sub category	NA
Contract Type	Tender	Bid Validity(Days)	120	Period Of Work(Days)	10950
Location	NMPA PANAMBUR	Pincode	575010	Pre Bid Meeting Place	NMPA PANAMBUR
Pre Bid Meeting Address	HYBRID	Pre Bid Meeting Date	13-Feb-2026 3:00 PM	Bid Opening Place	ONLINE
Should Allow NDA Tender	No	Allow Preferential Bidder	No		
Tenderer Class	As per Tender Document				

<u>Critical Dates</u>			
Publish Date	31-Jan-2026 10:00 AM	Bid Opening Date	01-Oct-2026 4:00 PM
Document Download / Sale Start Date	31-Jan-2026 10:00 AM	Document Download / Sale End Date	28-Sep-2026 3:00 PM
Clarification Start Date	31-Jan-2026 10:00 AM	Clarification End Date	10-Feb-2026 3:00 PM
Bid Submission Start Date	23-Feb-2026 10:00 AM	Bid Submission End Date	28-Sep-2026 3:00 PM

Nuclear Recycle Board||Tarapur - Construction - NRB

<u>Basic Details</u>			
Organisation Chain	Nuclear Recycle Board Tarapur - Construction - NRB		
Tender Reference Number	BARC (T)/NRB/INRPC/MPT-560/2026		
Tender ID	2026_NRB_921837_1	Withdrawal Allowed	Yes
Tender Type	Open Tender	Form of contract	Works
Tender Category	Works	No. of Covers	2
General Technical Evaluation Allowed	No	ItemWise Technical Evaluation Allowed	No
Payment Mode	Offline	Is Multi Currency Allowed For BOQ	No
Is Multi Currency Allowed For Fee	No	Allow Two Stage Bidding	No

Tender Fee Details, [Total Fee in ₹ * - 0.00]				EMD Fee Details			
Tender Fee in ₹	0			EMD Amount in ₹	2,518,000	EMD Exemption Allowed	No
Fee Payable To	Nil	Fee Payable At	Nil	EMD Fee Type	fixed	EMD Percentage	NA
Tender Fee Exemption Allowed	No			EMD Payable To	Pay and Accounts Officer,	EMD Payable At	Boisar, Maharashtra

Work /Item(s)					
Work Description	Design, procurement, installation, testing and commissioning of Secondary Cooling Water System in block 103 and 105 at INRPC site				
Pre Qualification Details	As per NIT				
Tender Value in ₹	151,800,000	Product Category	Metal Fabrication	Sub category	NA
Contract Type	Tender	Bid Validity(Days)	180	Period Of Work(Days)	547
Location	INRPC, BARC, Tarapur,	Pincode	401502	Pre Bid Meeting Place	Project Director Office, INRPC,
Pre Bid Meeting Address	Project Director Office, INRPC,	Pre Bid Meeting Date	21-Aug-2026 2:30 PM	Bid Opening Place	Project Director Office, INRPC,
Should Allow NDA Tender	No	Allow Preferential	No		
Tenderer Class	As per Tender Document				

Critical Dates			
Publish Date	14-Aug-2026 3:00 PM	Bid Opening Date	28-Sep-2026 3:00 PM
Document Download / Sale Start Date	14-Aug-2026 3:00 PM	Document Download / Sale End Date	21-Sep-2026 3:00 PM
Clarification Start Date	NA	Clarification End Date	NA
Bid Submission Start Date	14-Aug-2026 6:00 PM	Bid Submission End Date	21-Sep-2026 3:00 PM

NHPC LIMITED||CORPORATE OFFICE-FARIDABAD- NHPC||CONTRACT-E AND M-CO-NHPC

Basic Details			
Organisation Chain	NHPC Limited Corporate Office-Faridabad-NHPC Contract-E and M-CO-NHPC		
Tender Reference Number	NH/Conts(EnM)/NHDC/PSP/2026/01		
Tender ID	2026_NHPC_915451_1	Withdrawal Allowed	Yes
Tender Type	Open Tender	Form of contract	Works
Tender Category	Works	No. of Covers	2
General Technical Evaluation Allowed	No	ItemWise Technical Evaluation Allowed	No
Payment Mode	Offline	Is Multi Currency Allowed For BOQ	No
Is Multi Currency Allowed For Fee	No	Allow Two Stage Bidding	No

Tender Fee Details, [Total Fee in ₹ * - 40,000]				EMD Fee Details			
Tender Fee in ₹	40,000			EMD Amount in ₹	100,000,000	EMD Exemption	No
Fee Payable To	NHPC Limited	Fee Payable At	Faridabad	EMD Fee Type	fixed	EMD Percentage	NA
Tender Fee Exemption	No			EMD Payable To	NHDC Limited	EMD Payable At	Bhopal

Work /Item(s)					
Work Description	PACKAGE- 3 ELECTRO-MECHANICAL WORKS OF INDIRASAGAR-OMKARESHWAR PUMPED STORAGE PROJECT (8 x 80 MW i.e. 640 MW), DISTRICT KHANDWA, MADHYA PRADESH, INDIA				
Pre Qualification	As per Tender documents				
Independent External	During Tendering Process- Shri Prabhash Singh, Shri Upendra Malik and after award of work- Sh. Mahendrasinh J. Parmar and Smt. Usha Chandrasekhar				
Tender Value in ₹	15,635,500,000	Product Category	Electrical Works	Sub category	NA
Contract Type	Tender	Bid Validity(Days)	180	Period Of Work(Days)	1278
Location	Indira Sagar Omkareshwar PSP,	Pincode	450119	Pre Bid Meeting Place	NHPC Corporate Office, Faridabad
Pre Bid Meeting Address	NHPC Limited, Jyoti Sadan, NHPC	Pre Bid Meeting Date	05-Aug-2026 2:30 PM	Bid Opening Place	Contract (EnM), NHPC Corporate
Should Allow NDA Tender	No	Allow Preferential Bidder	No		

<u>Critical Dates</u>			
Publish Date	17-Jul-2026 5:00 PM	Bid Opening Date	09-Oct-2026 3:30 PM
Document Download / Sale Start Date	17-Jul-2026 6:00 PM	Document Download / Sale End Date	08-Oct-2026 3:00 PM
Clarification Start Date	17-Jul-2026 6:00 PM	Clarification End Date	31-Jul-2026 5:00 PM
Bid Submission Start Date	18-Sep-2026 6:55 PM	Bid Submission End Date	08-Oct-2026 3:00 PM

Nuclear Recycle Board||Tarapur - Construction – NRB

<u>Basic Details</u>			
Organisation Chain	Nuclear Recycle Board Tarapur - Construction – NRB		
Tender Reference Number	BARC (T)/NRB/INRPC/MPT-560/2026		
Tender ID	2026_NRB_921837_1	Withdrawal Allowed	Yes
Tender Type	Open Tender	Form of contract	Works
Tender Category	Works	No. of Covers	2
General Technical Evaluation Allowed	No	ItemWise Technical Evaluation Allowed	No
Payment Mode	Offline	Is Multi Currency Allowed For BOQ	No
Is Multi Currency Allowed For Fee	No	Allow Two Stage Bidding	No

<u>Tender Fee Details, [Total Fee in ₹ * - 0.00]</u>				<u>EMD Fee Details</u>			
Tender Fee in ₹	0			EMD Amount in ₹	2,518,000	EMD Exemption Allowed	No
Fee Payable To	Nil	Fee Payable At	Nil	EMD Fee Type	fixed	EMD Percentage	NA
Tender Fee Exemption Allowed	No			EMD Payable To	Pay and Accounts Officer,	EMD Payable At	Boisar, Maharashtra

<u>Work /Item(s)</u>					
Work Description	Design, procurement, installation, testing and commissioning of Secondary Cooling Water System in block 103 and 105 at INRPC site				
Pre Qualification Details	As per NIT				
Tender Value in ₹	151,800,000	Product Category	Metal Fabrication	Sub category	NA
Contract Type	Tender	Bid Validity(Days)	180	Period Of Work(Days)	547
Location	INRPC, BARC, Tarapur, Maharashtra	Pincode	401502	Pre Bid Meeting Place	Project Director Office, INRPC, NRB, BARC, Tarapur
Pre Bid Meeting Address	Project Director Office, INRPC, NRB, BARC, Tarapur,	Pre Bid Meeting Date	21-Aug-2026 2:30 PM	Bid Opening Place	Project Director Office, INRPC, NRB, BARC, Tarapur
Should Allow NDA Tender	No	Allow Preferential Bidder	No		

<u>Critical Dates</u>			
Publish Date	14-Aug-2026 03:00 PM	Bid Opening Date	28-Sep-2026 03:00 PM
Document Download / Sale Start Date	14-Aug-2026 03:00 PM	Document Download / Sale End Date	21-Sep-2026 03:00 PM
Clarification Start Date	NA	Clarification End Date	NA
Bid Submission Start Date	14-Aug-2026 06:00 PM	Bid Submission End Date	21-Sep-2026 03:00 PM

Bhabha Atomic Research Centre||Bhabha Atomic Research Centre Kalpakkam

Basic Details			
Organisation Chain	Bhabha Atomic Research Centre Bhabha Atomic Research Centre Kalpakkam		
Tender Reference Number	BARC/NRB/FRFCF/INST/ETR073/26		
Tender ID	2026_BARC_922519_1	Withdrawal Allowed	Yes
Tender Type	Open Tender	Form of contract	Works
Tender Category	Works	No. of Covers	2
General Technical Evaluation Allowed	No	ItemWise Technical Evaluation Allowed	No
Payment Mode	Offline	Is Multi Currency Allowed For BOQ	No
Is Multi Currency Allowed For Fee	No	Allow Two Stage Bidding	No

Tender Fee Details, [Total Fee in ₹ * - 0.00]				EMD Fee Details			
Tender Fee in ₹	0			EMD Amount in ₹	659,186	EMD Exemption Allowed	No
Fee Payable To	Nil	Fee Payable At	Nil	EMD Fee Type	percentage	EMD Percentage	2.00%
Tender Fee Exemption Allowed	No			EMD Payable To	PAY AND ACCOUNTS OFFICER	EMD Payable At	KALPAKKAM

Work /Item(s)					
Work Description	Supply, fabrication, installation and testing of Transmitter Racks along with rack mounted instruments in Block 1 and 2 of building no. 401, FRFCF, Kalpakkam				
Pre Qualification Details	Please refer tender document				
Tender Value in ₹	32,959,294	Product Category	Machineries/ Mechanical Engg	Sub category	Racks along with rack mounted
Contract Type	Tender	Bid Validity(Days)	120	Period Of Work(Days)	365
Location	FRFCF, Kalpakkam	Pincode	603102	Pre Bid Meeting Place	NA
Pre Bid Meeting Address	NA	Pre Bid Meeting Date	NA	Bid Opening Place	Training Centre Building, FRFCF, Kalpakkam
Should Allow NDA Tender	No	Allow Preferential Bidder	No		

<u>Critical Dates</u>			
Publish Date	21-Aug-2026 10:00 AM	Bid Opening Date	29-Sep-2026 03:30 PM
Document Download / Sale Start Date	22-Aug-2026 11:00 AM	Document Download / Sale End Date	23-Sep-2026 03:00 PM
Clarification Start Date	24-Aug-2026 10:00 AM	Clarification End Date	29-Aug-2026 03:00 PM
Bid Submission Start Date	04-Sep-2026 11:00 AM	Bid Submission End Date	23-Sep-2026 03:00 PM

Indira Gandhi Centre for Atomic Research||IGCAR

<u>Basic Details</u>			
Organisation Chain	Indira Gandhi Centre for Atomic Research IGCAR		
Tender Reference Number	IGC/MMG/PIED/MSMS/SM/2026/NDT1		
Tender ID	2026_IGCAR_922150_1	Withdrawal Allowed	Yes
Tender Type	Open Tender	Form of contract	Works
Tender Category	Works	No. of Covers	2
General Technical Evaluation Allowed	No	ItemWise Technical Evaluation Allowed	No
Payment Mode	Offline	Is Multi Currency Allowed For BOQ	No
Is Multi Currency Allowed For Fee	No	Allow Two Stage Bidding	No

<u>Tender Fee Details, [Total Fee in ₹ * - 0.00]</u>			
Tender Fee in ₹	0		
Fee Payable To	Nil	Fee Payable At	Nil
Tender Fee Exemption Allowed	No		

<u>EMD Fee Details</u>			
EMD Amount in ₹	116,400	EMD Exemption Allowed	No
EMD Fee Type	fixed	EMD Percentage	NA
EMD Payable To	Indira Gandhi Centre for Atomic Research	EMD Payable At	Indira Gandhi Centre for Atomic Research

<u>Work /Item(s)</u>					
Work Description	Dismantling of two numbers of existing tanks and Fabrication, Installation and commissioning of two numbers of new SS304L tanks at PIED Phase II delay tank area.				
Pre Qualification Details	Please refer Tender documents.				
Tender Value in ₹	5,820,000	Product Category	Metal Fabrication	Sub category	NA
Contract Type	Rate Contract	Bid Validity(Days)	120	Period Of Work(Days)	547
Location	RML Building	Pincode	603102	Pre Bid Meeting Place	NA
Pre Bid Meeting Address	NA	Pre Bid Meeting Date	NA	Bid Opening Place	Accounts Division, IGCAR
Should Allow NDA Tender	No	Allow Preferential Bidder	No		

<u>Critical Dates</u>			
Publish Date	18-Aug-2026 10:00 AM	Bid Opening Date	25-Sep-2026 03:30 PM
Document Download / Sale Start Date	18-Aug-2026 10:00 AM	Document Download / Sale End Date	16-Sep-2026 03:00 PM
Clarification Start Date	19-Aug-2026 10:00 AM	Clarification End Date	27-Aug-2026 03:00 PM
Bid Submission Start Date	28-Aug-2026 10:00 AM	Bid Submission End Date	16-Sep-2026 03:00 PM

Raja Ramanna Centre for Advanced Technology Indore||Construction and Services Division - RRCAT

<u>Basic Details</u>			
Organisation Chain	Raja Ramanna Centre for Advanced Technology Indore Construction and Services Division - RRCAT		
Tender Reference Number	RRCAT/EEACS/2026/25		
Tender ID	2026_RRCAT_924481_1	Withdrawal Allowed	Yes
Tender Type	Open Tender	Form of contract	Works
Tender Category	Works	No. of Covers	3
General Technical Evaluation Allowed	No	ItemWise Technical Evaluation Allowed	No
Payment Mode	Offline	Is Multi Currency Allowed For BOQ	No
Is Multi Currency Allowed For Fee	No	Allow Two Stage Bidding	No

Tender Fee Details, [Total Fee in ₹ * - 0.00]				EMD Fee Details			
Tender Fee in ₹	0			EMD Amount in ₹	244,000	EMD Exemption	Yes
Fee Payable To	Nil	Fee Payable At	Nil	EMD Fee Type	percentage	EMD Percentage	2.00%
Tender Fee Exemption Allowed	No			EMD Payable To	Pay and Accounts	EMD Payable At	Pay and Accounts

Work /Item(s)					
Work Description	Design, fabrication, supply, installation, testing and commissioning of HVAC system for RF Lab at RRCAT, Indore				
Pre Qualification Details	Please refer Tender documents.				
Tender Value in ₹	12,200,000	Product Category	Electrical Works	Sub category	HVAC Works
Contract Type	Tender	Bid Validity(Days)	180	Period Of Work(Days)	510
Location	RRCAT, Indore	Pincode	452013	Pre Bid Meeting Place	NA
Pre Bid Meeting Address	NA	Pre Bid Meeting Date	NA	Bid Opening Place	RRCAT, Indore
Should Allow NDA Tender	No	Allow Preferential Bidder	No		

Critical Dates			
Publish Date	03-Sep-2026 10:00 AM	Bid Opening Date	28-Sep-2026 03:30 PM
Document Download / Sale Start Date	03-Sep-2026 10:00 AM	Document Download / Sale End Date	25-Sep-2026 03:30 PM
Clarification Start Date	NA	Clarification End Date	NA
Bid Submission Start Date	05-Sep-2026 10:00 AM	Bid Submission End Date	25-Sep-2026 03:30 PM



BCGCL is Developing a Coal Ammonium Nitrate Complex at Lakhanpur, Jharsuguda, Odisha

Project basic details

- Status: Planning
- Product: Ammonium nitrate

Project Details

Bharat Coal Gasification and Chemicals Limited is implementing a coal-gasification-based integrated chemical complex designed for 2,000 TPD ammonium nitrate.

The parent scheme includes coal gasification, syngas purification, 920 TPD ammonia synthesis, 1,650 TPD nitric acid and ammonium-nitrate units plus utilities and offsites. The core coal-gasification/raw-syngas package was awarded to BHEL in January 2026. A fresh PDIL tender published 01-Sep-2026 seeks a lump-sum package for raw-water treatment, DM water, condensate polishing, effluent treatment with ZLD and sewage treatment; bids close 22-Sep-2026 and open 23-Sep-2026. Tender value is not disclosed. This creates immediate opportunities in water treatment, RO/DM systems, condensate polishing, ETP/ZLD/STP, pumps, tanks, piping, electrical, instrumentation, automation and civil works.

Contact Details

Promoter:

Bharat Coal Gasification and Chemicals Limited (BCGCL)

Office Address Bandhabahal Old PO Belpah,

BIT Colony, MCL (In Front), Bandhbahal Colony,

Lakhanpur, Jharsuguda - 768211, Odisha, India.

Tel: 03371104231

Email: info@bcgcl.in

Eco Steel India Plans for Distilling, Rectifying and Blending of Spirits Unit at Anantappur, Andhra Pradesh

Project basic details

- Status: Planning
- Product: Distillery
- Cost: 152.11 Cr.

Project Details

Eco Steel India plans for distilling, rectifying and blending of spirits unit at Anantappur, Andhra Pradesh.

200 KLD (100 KLD in Phase-1 + 100 KLD in Phase-2) along with 6 MW Co-generation Project (3 MW in Phase-1 + 3 MW in Phase-2), Sept 2026: Project is still in the planning stage as funding is awaited, and construction may take some time to commence.

Contact Details

Promoter: Eco Steel India
8-2-614/A/B/3/1, Flat-401 Burri Residency, Road No.11,
Banjara Hills Hyderabad
Hyderabad TG 500034
Email ID: groupco47@gmail.com
Mr Nimish Gadodia (Director)
Mr Chiranjib Das
Mobile: 9959498881 / 9483542829,

Abhiyan Distilcomm is Plans to Set Up Distillery Unit in Jharkhand

Project basic details

- Status: Planning
- Cost: Rs 150 Cr

Project Details

Abhiyan Distilcomm is Plans to set up Distillery unit in Jharkhand grain-based distillery project with a capacity of 130 KLD, along with a 3.0 MW co-generation power plant. The project is proposed at Village Banskuli, Thana Tongra, Block Ranishwar, District Dumka, Jharkhand

Sept 2026: Project is still in the planning stage, as land acquisition is under process but remains stalled due to certain issues and may commence within the next 4–5 months.

Contact Details

Promoter:
Abhiyan Distilcomm Private Limited
at Village Banskuli, Thana Tongra, Block Ranishwar,
District Dumka, Jharkhand

Contact Ashish Jha, 2/5, Sarat Bose Road, Sukh Sagar Housing Society, 2nd Floor, Kolkata, West Bengal - 700020.

Mr Vishnu Dadich (Project Head/ Chief Adviser)

,Contact No: 9007653331

Mobile: 9830262602, Email:

abhiyandistilcomm2025@gmail.com

PNGRB is Setting Up LPG Pipeline Infrastructure Programme - Will pass through Six States

Project basic details

·Status: Planning
Cost: 7000 cr

Project Details

PNGRB is laying of about 1,800 km of LPG pipeline infrastructure programme will pass through six states Telangana, Maharashtra, Uttar Pradesh, Uttarakhand, Karnataka and Goa

Contact Details

Promoter :
Petroleum and Natural Gas Regulatory Board (PNGRB)
E-400, 4th Floor, Tower-E, World Trade Center,
Nauroji Nagar, New Delhi - 110029
Reception/EPABX No.: +91 (11) 24060151
Web: www.pngrb.gov.in

Piramal Pharma Is Setting Up API and Formulation Unit in Aurangabad

Project basic details

- Status: Planning
- Cost: 1000 Cr.

Project Details

Piramal Pharma li is setting up API and formulation unit in Aurangabad.The plant development will be carried out in three phases: Phase I, Phase II, and Phase III.

Sept 2026: Project is still in the planning stage, as government permission has been received and work is expected to start within 5–6 months

Contact Details

Promoter:

Piramal Pharma ii Private Limited

at Plot No. 1, Sector 6, Auric Bidkin

Industrial Park, Aurangabad, Maharashtra

Contact : Uday Joshi, Vice President - Operations, Gr. Flr, Ananta Building, Agastya Corp. Park,

Kamani Junction, LBS Marg, Kurla West, Mumbai - 400070, Maharashtra.

Mobile: 9371780563, Email: Uday.joshi@piramal.com

Saudi Aramco is Developing Molten-Sulphur Handling and Export Facilities at Ras Al-Khair Port

Project basic details

·Status: Planning

Project Details

Saudi Aramco has awarded a build-own-operate-transfer contract for new sulphur-handling infrastructure at Ras Al-Khair port. The operator is required to develop facilities capable of receiving, handling, forming and exporting up to 9,500 metric tonnes of molten sulphur per day.

The award moves the project into development/execution and creates opportunities for sulphur-forming units, storage and transfer systems, tanks, pumps, piping, heat tracing, conveyors, ship-loading/export systems, electrical distribution, control and instrumentation, utilities, fire protection, civil works and port interfaces. The accessible award source does not disclose contract value or the winning operator's identity

Contact Details

Promoter : Saudi Aramco
Saudi Aramco
P.O. Box 5000
Dhahran 31311
Saudi Arabia

Telephone: 966-3 872-0115
Fax: 966-3 873-8190
Telex: 801220 A SAO SJ
Cable: ARAMCO DAMMAM
E-mail: webmaster@aramco

Qatar Energy is Developing the 16 MTPA North Field West LNG Expansion

Project basic details

- Status: Planning
- Product: LNG trains, gas treatment, NGL/helium recovery and offshore feedgas facilities

Project Details

Qatar Energy's North Field West development, the third phase of Qatar's North Field LNG expansion, is under EPC execution for two LNG trains with combined capacity of 16 MTPA plus gas treatment, NGL recovery and helium facilities.

A major offshore EPCI tender for four production deck modules and associated structures is now live; Qatar Energy has extended technical bids to 15 September 2026 and commercial bids to 10 November 2026. Bidders include China Offshore Oil Engineering Company, L&T Energy Hydrocarbon, McDermott and Saipem. The onshore EPC contract, estimated by industry reporting at about US\$8 billion, was awarded in February 2026 to a JV of Technip Energies, CCC and Gulf Asia Contracting; McDermott previously won the offshore jackets EPCI package. The current tender creates major opportunities in offshore structures, process skids, piping, valves, compressors, E&I, cables, telecom, fabrication, marine installation and commissioning.

Contact Details

Promoter: Qatar Energy
P. O. Box 3212, doha Qatar
tel-+974-(974) 4440 2000
fax-+974-(974) 4483 1125
<https://www.qatarenergy.qa>

Excellent Promotional Platforms by PPMAI for Showcasing Your Products and Services

PPMAI Web-site (www.ppmmai.org)

You may place a strip advertisement on the Association's Website as per the following specifications:

- Image size for extreme top single advertisement:

Image Format: .jpeg, .png

Size (in pixels): Width: 800px / Height: 100px

Rate: Rs.40,000/- + GST (as applicable) for One Year

- Image size for scrolling advertisement:

Image Format: .jpeg, .png

Size (in pixels): Width: 310px / Height: 230px

Rate: Rs.25,000/- + GST (as applicable) for One Year

- Image size for footer advertisement:

Image Format: .jpeg, .png

Size (in pixels): Width: 195px / Height: 95px

Rate: Rs.15,000/- + GST (as applicable) for One Year

A link will be provided on your advertisement which upon clicking will take the viewer to your own company website. You can change the contents of your ad at regular intervals within the contract period.

PPMAI Bulletin (soft copy)

We bring out a soft version of PPMAI bulletin, bimonthly, which is circulated to all our members which contains latest tenders and details of upcoming projects as well as Govt. notifications related to the industry. Advertisement can be placed in this Bulletin at a nominal cost as below:

Full-page advertisement for members (A4 size) - Rs. 24,000/- + GST (as applicable) for one year. (Rs. 2000/- per issue).

Sponsorship at PPMAI events

Members can avail of attractive sponsorship opportunities in various events of the Association – exhibitions, seminars / workshops, buyer-seller meet, networking, AGM, etc. Rates will be circulated to members once the event is finalized.



Edited & Published by:

Sneha More, Deputy Secretary General



Process Plant & Machinery Association of India,
002. Loha Bhavan, 91, P D' Mello Road,
Masjid (E),
Mumbai – 400 009.



Tel:

2348 0965, 2348 0405



Email:

adminppmai@ppmai.org



Website

www.ppmai.org

