# **Quality Mantra**

A NEWSLETTER OF INTERNATIONAL CERTIFICATION SERVICES

Nov 2005 to Feb 2006

Vol. III No. 11/12





# ■ Third Party Inspection

## **■** Calibration

# Calibrate at regular Intervals

**Guest of Honor** 



Guest of Honor from Kutch Satta

**Second Opinion** 



Clause No. 8.5.3 of ISO 9001:2000

Learn with Fun



Tips for Evaluation



**Customer's Platform** 



ISO Certification from ICS Hydrabad.





## Last Year's Coverage

Quality Mantra Has Covered Following Subjects In The Last Year. In Case You Have Missed Out Any Of Them & Wish To Have It; Please Feel Free To Contact Editor at uday@icsasian.com













## Editorial



Certification, Inspection & Verification Services: International Certification Services is creating waves not only in the Management System simultaneously in Inspection and Verification Services. Year 2005 started with good note whereas we grabed number of prestigious Inspection & Verification projects in India and Overseas.

Main projects covered Sohar Water Pipeline Project of Oman, Verification of the Quality of the Offshore Platforms for Oil & Natural Gas Corporation Ltd., India and Vendor Inspection for Bharat Heavy Electrical Ltd., Indian Oil Corporation & Hindustan Petroleum Corporation Ltd. and MGL Gas Grid Pipeline Project of Mahanagar Gas Ltd.

International Certification Services emphasises on the continuous training of their Surveyors, Inspectors & Auditors through In-house training and external training programmes. The project Manager and Project co-coordinator ensures timely completion of the inspection within schedule including submission of documents & reports to our valued customer in time.

India is really on the move, which is prevalent from the share market, as bull has been raising its harm and fuming. Quality of product and services requirements has been growing due to globalization with booming of our industry in all sectors.

International Certification Services is communicated to provide necessary and essential support to the industry by sharing the responsibility to verify the quality in conformance with the project requirements, specifications and applicable standards.

New year to the heel that will definitely bring prosperity to our Industry and Country.

It's our immense pleasure to wish you all a very Happy and Prosperous New Year

SUNDAR KATARIA





## Corporate News



The Guest of Honor presented to Mr. Sundar Kataria and Mrs. Sheela Kataria by Ms. Sonu Bhatia, Chief Editor of Kutch Satta Magazine on the occasion of 35th Anniversary Ceremony of Kutch Satta.

## ● FOOD SAFETY MANAGEMENT SYSTEM ISO - 22000

We are pleased to announce our accreditation for the "Food Safety Management System / Hazard and Critical Control point" through the Joint Accreditation System of Australia & New Zealand, Australia in accordance with ISO 22000 Standard. This standard has been recently launched in the October 2005 We are the first Certification Body in India to get the accreditation

## POLISH CENTRE FOR TESTING & CERTIFICATION, POLAND

A team of PCBC visited India in the month of November '05 to assess and witness CE Marking for the Medical Devices and IVD. The team consisted of Mr. Janusz Piskozub Manager and an expert in this field Mr. Grzegorz Przewlocki - Ph.D. They visited New Delhi to audit M/s J. Mitra & Co. Pvt. Ltd. for Certification of CE Mark of In-vitro Diagnostic Medical Devices. Later on a witness audit was also conducted by PCBC for the Medical Devices at Phoenix Medical Pvt. Ltd., Chennai. A visit was made to ICS Mumbai Corporate Office to review and verify ICS Certification System related to CE Marking.

The visit of PCBC team to India has been very fruitful for ICS. This provided an excellent exposure to the requirements of CE Marking for IVD and Medical Devices. It was a good opportunity for ICS personnel to receive valuable advice from PCBC to upgrade their technology. ICS team of CE Mark Auditors also underwent two days training programme on CE Mark. ICS ensure that CE Mark Certification services for their clients are prompt, value added and cost economic that will meet all necessary requirements of European Commission. ICS believes working in partnership with their manufacturers that will provide effective technology.

### T.P.I. Services for IWPP Sohar Water Transmission System, Oman

We have been providing T.P.I. services for the IWPP Sohar Water Transmission System of the Ministry of Housing, Electricity and Water (MHEW) - Sultanate of Oman. The work is divided in two stages.

Stage 1: Assessment of the manufacturing facilities of M/s Welspun at Anjar & Dahej in Gujarat. Our verification process was guided by the requirements of API 5L specifications. The work of Stage is already completed and we have submitted our Assessment Report with recommendations to MHEW. Based on our report M/s Welspun was approved by MHEW to manufacture the pipes required for this prestigious project

Stage 2: This Stage involves inspection of pipes manufactured at Welspun plants. In the beginning recommendations for approval of materials such as Epoxy, Adhesive and Polyethylene (for 3 Layer External Coating) and Solvent Free Epoxy (for Internal Lining) were given. Subsequently Qualification of certain Procedures was done. Now the inspection of pipes is in progress, which has been going on since August '05. It involves about 200 KM of pipeline consisting of 1219, 1016, 914 and 711 mm diameters, totaling to approximately 35,000 MT.

In addition to the inspection of fabrication of pipes with internal & external coating, ICS is also inspecting these pipes during transportation / storage at Mundra Port and loading in ship before dispatch to Oman. First two consignments totaling to about 10,000 MT of pipes inspected and released by ICS, have already reached Oman. The third consignment of about 5,000 MT is scheduled to be dispatched very shortly by end December '05. We have been submitting regularly to M/s Energoprojekt - the main Consultant of MHEW, the progress reports every week. The entire job is expected to continue upto May '06. The client MHEW & their main Consultant M/s Energoprojekt are extremely happy with the quality inspection services being provided by ICS Surveyors and recorded in Inspection Reports, Release Notes & other Test Reports. This has been also a very satisfying experience for ICS team in convincing the Middle East world about the high proficiency of the technical services provided from India.

-Editor





## Third Party Inspection

#### BY AKSINHA SR MANAGER TPI

#### What is Third Party Inspection?

Third Party Inspection (TPI): By definition, TPI stands for Inspection conducted by an 'Independent Agency 'on goods/ materials supplied by Manufacturer/Supplier.

By the term 'Independent Agency', is meant an Agency with whom the Manufacturer/Supplier has NO CONTRACTUAL RELATIONSHIP. In other words, the TPI Agency may be appointed and have contractual relationship with the End User or the Agency who has placed order on the Manufacturer/ Supplier but NOT with the Manufacturer/Supplier.

#### What are the Advantages of TPI?

- 1. Value-Added Inspection
- 2. Objective Inspection with 'no-strings-attached'.
- 3.Cost & Time saving

#### What are the primary reqisites of a TPI Agency?

- 1.Trained and Experienced Work-force with on-going Training facilities
- 2. Well-equipped library with Codes & Standards
- 3.Adequate range of Inspection, Measuring & Testing Instruments & Gauges
- 4.A well-implemented Inspection Management Management

#### INSPECTION MANAGEMENT SYSTEM (IMS)

INTERNATIONAL CERTIFICATION SERVICES(ASIA) PVT. LTD (ICS) have established their INSPECTION MANAGEMENT SYSTEM based on the requirements of ISO 17020.

The IMS ensures Independence, Impartiality and Integrity and includes:

- 1. Inspection Policy & Objectives
- 2. Inspection Quality System
- 3. Quality Manual
- Document Control including Codes, Standards & Specifications / Recommended Practices
- 5. Internal Audits
- 6. Non-Conformance Management--CA & PA
- 7. Management Review
- 8. Qualification, Experience, Knowledge & Training for decision making
- 9. Training of personnel
- 10. Records
- Facilities & Equipment including Instruments /Gauges for Inspection, Measuring & Testing

INTERNATIONAL CERTIFICATION SERVICES(ASIA) PVT. LTD have been rendering TPI Services in many Areas & the Services being provided currently to few prestigious Customers are listed below:

- 1. Vendor Inspection of Mechanical, Electrical & Instrumentation Goods/Products for BHEL,Bhopal for their Vendors located all over India.
- 2. Vendor Inspection of Mechanical Goods/Products for IOCL, Noida for their Vendors located all over India.
- 3. Inspection of Painting work carried-out for ONGC on their Offshore Well-Head & Process Platforms located in Bombay High & South Bassein
- 4. Certification of Cranes located on ONGC Off-shore Platforms
- 5. Certification of De-hydration Units at ONGC Off-shore Process Platform .
- 6. Inspection of Laying/Installation of Gas Pipelines in the city of Mumbai by Mahanagar Gas Limited.
- 7. On-line Inspection of Submerged Arc Welded (SAW) Pipes at M/s Welspun Works at Anjar & Dahej at Gujrat .The SAW Pipes are required to be Inspected also for External Coating & Internal Lining prior to being exported to Oman for IWPP-SOHAR Potable Water Project .
- 8. Inspection of Canopy & Structurals for Outlets for Petroleum owned by HPCL.
- 9. Inspection of Under-ground CS Tanks for Storage of Petroleum at HPCL Outlets.
- 10. Inspection of Gas Filters for ISRO(thru' M/s Delta Filters ).

ICS has made rapid strides in the field of TPI in the short time they have entered this field & with the support of their motivated Work-force & patronage of their delighted Customers,the day is not far- off when ICS will become one of the renowned International TPI Agencies.





Mr. Uday Dharm, Sr. Manager Operations, ICS Pune. addressing the participants in the workshop conducted on ISO 9001:2000 by Maharashtra Center for Entrepreneurship Development at Indian Institute of Engineers, Pune. Mr. Deokar of MCED & Mr. Rahane of RST are also seen.





## Feature On Third Party Inspection

A cluster of experienced engineers from various organizations of repute are all marching in one direction, supporting each other.

Funny? Loudly no.

Ex EIL, Ex SAIL, Ex Tata's and Ex L&T etc. have joined hands, minds and souls for shaping a common goal of better-recognized ICS.

One of the products, ICS has and is the cause of better respect is "THIRD PARTY INSPECTION SERVICES". Within this short period after its inception, while pursuing other products viz. System Certification etc., TPI has traveled a long way while earning recorded appreciations from Hindustan Petroleum Corporation limited, Oil and Natural Gas Corporation, Indian Oil Corporation Limited, Bharat Heavy Electrical Limited Mahanagar Gas Limited and from many Quality Conscious clients.

ICS Surveyors could invariably be found on offshore process platforms on TPI assignments. They can also be seen in workboats rubbing their shoulders with client's technocrats.



OFFSHORE TEAM OF ICS

To give stock of the TPI situation to our patrons, we can say that till September 2005, **155** work-orders from reputed clients like KPTL, ONGC, MGL, BHEL, PII, IOCL, HPCL, AIL, Welspun and many abroad clients like ECONOSTO, KHARTSYZSK TUBE (UKRAINE), MHEW (OMAN), AGAS INTERNATIONAL (BAHARAIN) have been successfully completed and product is progressing with longer strides.



 $20,\!000~\mathrm{KL}$  API, TANKS FOR 'AGAS INTL (BAHARAIN) AT BAPCO SITE INSPECTED BY ICS

These days we are covering areas like Gas and Oil, construction, pipeline and its laying, rotary and static equipments.

Valves, pumps, pipes, fittings, machined components and equipments for onshore & offshore critical applications are being verified by us on continual basis



OIL & NATURAL GAS CORPORATION LIMITED
MUMBAI REGION
MUMBAI HIGH ASSET

737, Vasudhara Bhavan, Bandra East). MUMBAT - 400 051 Phone:26599737, Fax:26599500 Date: 20.10.2004

Subject: Completion Certificate

Ref.: Contract No.: MR/MH/MM/SCON/TPI/76/2003-2004/LT-15 for Third Party Inspection related jobs of Maintenance Painting of Offshore Platforms of MH for the job of Platform Based Painting only.

With reference to above, this is to certify that M/s International Certification services (Asia) Pvt. Ltd. has successfully completed the works of supervision, quality assurance and measurement of works/certification of maintenance painting works at offshore platforms of MH for the job of Platform Based Painting only covering an area of approximately 1,70,000 square meters to the full satisfaction of the Corporation as per the conditions of the contract.

The contract execution period was from 12.11.2003 to 12.06.2004

(N.V. Subrahmanyam) 2-(1-5) -9 G.M. (P)

RECOGNITION FROM OIL AND NATURAL GAS CORPORATION

Adding one more colour to TPI, Maharashtra Jeevan Pradikaran have reposed confidence in ICS and signed a contract with us for their vendors evaluation and its rating.

We have every reasons to be happier, but co-operation and well wishing from Patrons are very much warranted for our accelerating growth.



Ramakant Prasad General Manager





## **Second Opinion**



Quality Mantra asks leading consultants, to give their opinion on a typical problem asked by any of our clients on QMS / EMS every issue.

#### THE TYPICAL PROBLEM OF THIS ISSUE IS AS UNDER

We are in the process of implementing the Quality mangement System to meet the requirements of ISO 9001-2000. Meeting clause 8.5.3 for Preventive Action is presently some difficulty. It demands documented procedure for 'Determining potential non-conformity and their causes.' In other words we need to produce a description of a process for anticipating & reacting to non-conforming solutions, that have not yet occured. How should we approach this?

#### Padmanabh R Kelkar

This is a very apt question & my answer to the same is as follows To find out the potential non-conformances of a specific process or product, one has to use tools like

PFMEA (Potential Failure Modes, Effects and Analysis); C & E Diagram(Cause and Effect diagram or Fishbone diagram). PFMEA is a very good tool to find out the potential nonconformances that may occur (called as failure modes). C & E diagram is used to find out the causes which contribute to the failure modes.

Typically, a C & E diagram is followed by a 5 Why Analysis to find the **root causes** to a specific problem.

Using the combination of above mentioned tools will certainly help in achieving **Preventive Action** for a specific problem. I have personally used these techniques in my Process Improvement / Problem Solving assignments and have achieved great benefits for my customers.

Also one should read and understand the explanation given in ISO 9004:2000 specific to 8.5.3.

#### Padmanabh R Kelkar

He is proprietor and Lead Consultant for Q-Pulse Services. He is a certified Six Sigma Green Belt and has a niche in training in areas like

Six Sigma, APQP, SPC, MSA, FMEA and PPAP.

#### Mr. N. K. Maitra

In order to understand the above requirement we must know Absolutes of Quality, which are:

- ·The definition of Quality is conformance to requirements
- ·The system of Quality is prevention
- ·The performance standard of Quality is Zero defect.
- ·The measurement of Quality is the price of Non-conformance.

What is prevention: It means different tings to different people: To the top level sports person it needs absolute physical fitness. To the teacher preparation for eliminating error and identifying opportunities for error before going to the class.

For a car driver it needs all check ups for car in respect to oil in Engine case, water in radiator, Tyre pressure etc. in order to prevent from breakdown Hence we can conclude Prevention means what we are doing & identifying opportunities for eliminating potential errors. Developing systems and practices for prevention need not be a complex job and it needs knowledge of its mechanism and an understanding of possible problems & how they can be prevented.

The practice of Prevention needs a knowledge of the processes in which we have to prevent errors from occurring.

Management of an organization should plan effectively in a systematic way to mitigate the effects of loss to the organization in order to maintain the performance of processes and products. Loss prevention in the form of planning should be applied to realization and support processes, activities and products to ensure the satisfaction of Customers.

This should be based on the data from appropriate methods including evaluation of historical data for trends.

Data can be generated from:

- ·Use of risk analysis tools such as Failure Mode & Effect Analysis.
- ·Market analysis
- ·Process Measurements
- ·Lessons learnt from past experience
- ·Satisfaction measurement
- ·Processes that may provide early warning of approaching out of control operating conditions.

The method should be determine and implement the actions needed to ensure that preventive action is implemented and understood and record the results of action taken.

Results of the evaluation of he effectiveness and efficiency of loss prevention plans should be an output from Management Review and should be used as an input for the modification plan and as an input to the Improvement process.

#### N.K.Maitra

Qualink services, Pune, Consultant for implementation of Quality Management System with various organizations including service sectors.



#### M. S. Patankar

This requirement is in response to the Principle of Continual Improvement. No organisation would like to fail in product, process or in organisation as such. Inclusion of this requirement of documented procedure is to have in built provision in QMS, by which due attention is paid to monitor the trend in product/ process/organisation performance, foresee any potential problem/ failure and to take necessary action to eliminate root cause for this failure as warranted. Hence the procedure for determining the potential non-conformities and their causes should be defined in different steps like determination of

·product/process/ corporate objectives,

factors critical to their achievements,

·how these factors may act to adversely affect the product/ process/ corporate objectives

likely effect with its severity and probability of such conditions on meeting the objectives

·likely causes for such conditions

root cause for such conditions/ potential nonconformities.

This procedure further requires evaluation of need of preventive action, determination /implementation/records of result/review of Preventive action depending upon severity/criticality of potential problem.

Inclusion of above activities in other processes like customer related process, production, maintenance, purchase etc will make process owner responsible for monitoring, measurement, trend analysis and necessary preventive action which can be further reviewed/discussed in Management Review to take a decision for improvement

#### M. S. Patankar

He is a chemical engineer from UDCT with 25 years of industrial experience in production, projects and as a General Manager in petrochemical Industry. He is a lead auditor for ISO 9001/14000 with consultancy since last five years.

#### Prafulla Mhaskar

As per ISO 9001: 2000, Clause No. 8.5.3 a documented procedure needs to be established as a mandatory requirement for determining potential non-conformities and their causes that necessarily not yet occurred. This methodology of anticipating the non-conformities, their effect on internal customers/ external customers, severity associated with this probable non-conformity

leads an organization to decide the causes of non-conformity, its occurrence possibility and then determine the process control to be applied on the process, the detection possibilities etc. Based on the Risk involved appropriate action can be determined, implemented and reviewed for the effectiveness of action initiated. The technique of FMEA (Failure Mode & Effects Analysis) is very useful for organization and widely used in the Automotive Industry. The documented process of determining potential failure modes at an early stage and prevent its occurrence is essential. As per definition of ISO9000-2000 Preventive action is the action taken to prevent the occurrence of non-conformity. Hence based on the experience of the people in the organistion, the potential nonconformities needs to be identified & opportunities for initiating preventive action to be determined. This can be done by brainstorming sessions conducted on regular basis with cross functional team approach.

Following steps shall be taken: -

1. Process and work operation potential non-conformities and the causes which affect product quality shall be analysed & evaluated for the determination of action to be taken depending upon the severity.

2. The daily production reports shall be analysed and corrective & preventive action to be raised to reduce and stop the rejection.

3. Quality rating of suppliers to be evaluated and analysed and guidance and support to be given to them.

4. The customer complaints to be analysed to study trends for timely action.

Preventive action shall be taken on following guidelines:-Preventive action is not required for any Isolated non-conformities, however shall be based on periodic analysis of patterns/trends of

non- conformities.

Preventive action shall be initiated for probable problems and not small isolated problems.

Preventive action shall be taken whenever product safety, performance, reliability and customer satisfaction are likely to affect adversely.

#### Prafulla Mhaskar

He is a Mechanical Engineer having 15 years of experience in various Industries. He is providing consultancy for ISO 9001/14001 for last 5 years.

**Certification Audit** 







## Feature on Calibration

## Calibration Concept & Terms Involved

## -By Mr. K. S. Yenpure

The awareness and need for, Calibration has enormously grown in last decade.

The ISO 9000 Quality Management System Provided an impulse in this direction.

The latest version of ISO 17025 Standard provides a basis for Calibration

Services coupled with specific criteria issued by National Accreditation Board for Calibration & Testing Laboratories NABL

Different Terms are involved while carrying out the Calibration. They are explained as under:

#### **CALIBRATION**

The set of operations which established, under specified conditions the relationship between values indicated by a measuring instrument or measuring system as values represented by material measure and the corresponding known values of a measured.

## ACCURACY (Measurement Accuracy)

A number, which indicates the closeness of a measured value to the true value or the ability of instrument to make measurements with small uncertainty.

## PRECISION (or REPEATABILITY)

Closeness of agreement between the result of successive measurements of the measured and carried out under the following conditions of measurements: -

- ·Same device under measurement
- ·Same measurement procedure
- ·Same observer
- ·Same measuring instrument under same conditions
- ·Same locations
- ·Repetition over a short time

#### RESOLUTION

It is the degree to which smallest value of the quantity can be identified/detected by the instrument e.g. resolution of a 1m scale in 100 division is 1 cm.

#### SENSITIVITY

Maximum input stimulus level required to actuate an instrument. The lower this level, the higher (or better) the sensitivity.' This can also be defined as (minimum operating "value) e.g., for common. balance, minimum mass required to produce detectable deflection is its sensitivity. It is the ratio of the change of output Signal with the Input Signal.

### STABILITY

Capacity of an instrument to remain within the rated error limit for a specified period of time under given set of conditions. Stability divided into two parts

- 1] Long Term,
- 2] Short Term.

## ERROR (OF MEASUREMENT)

Result of measurement minus a true value of quantity Expressed as: % of reading, % of range, % of full scale Discrepancy between measured and true value of quantity.

#### TRACEABILITY

A characteristic of a calibration, analogous to a pedigree. A traceable calibration is achieved when each instrument and standard, in a hierarchy stretching back to the national standard, was itself properly calibrated, & the results properly documented. The documentations provide the information needed to show that all the calibrations in the chain of calibration were properly performed.

#### UNCERTAINTY

An estimate of the possible error in a measurement. More I precisely, an estimate of the range of values which contains the true value of a measured quantity. Uncertainty is usually reported in terms of the probability that the true value lies within a stated range of values. Parameter associated with the result of measurement that characterizes the dispersion of values that could reasonably be attributed to measured.

## **TOLERANCE**

In metrology, the limits of the range of values (the uncertainty) that apply to a properly functioning measuring instrument.

#### **VERIFICATION**

The set of operations that assures that specified requirements have been met, or leads to a decision to perform adjustments, repair, downgrade performance or remove form use.

## INTERNATIONAL SYSTEM OF UNITS(SI)

A coherent system of units adopted and used by international agreement.

## CALIBRATION LABORATORY

A workspace provides with test equipment, controlled environment and trained personnel, established for the purpose of maintaining proper operation and accuracy of measuring and test equipment. Cal Labs typically perform many routine calibrations, often on a production - line basis.



#### **CALIBRATION LABEL**

A label affixed to a measuring instrument to show its calibration status. The label typically indicates the instrument identification, who performed the last calibration and when, and the date of the next scheduled calibration.

#### REPORT OF CALIBRATION

A document describing a calibration, including the same measuring results, when was done, by whom, under what conditions and using what equipment and procedures.

#### REFERENCE INSTRUMENT

An instrument capable of the same measuring function but of higher accuracy than the instrument to be calibrated. As e.g. for calibration 1% accurate pressure gauge, a 0.1% test gauge can be used as a reference instrument.

#### PRIMARY STANDARD

The highest standard of a base unit or a derived unit is called primary standard. These are essentially copies of the international proto type & are kept throughout the world in national standard laboratories.

#### SECONDARY STANDARDS

These are the reference, designed & calibrated from primary standards. These standards are sent periodically to the national standards laboratories for their calibration. The secondary standards are kept in industry as a reference to calibrate the working standard.

#### **WORKING STANDARD**

These are the normal standards used by technicians & workers who are actually carrying out the operational measurement. In factory the production measuring instruments are checked against the working standards having an accuracy of one order lower than that of the secondary standards obviously calibration is traceable to primary standards.

#### **EXPRESSION OF ACCURACY**

1] Accuracy in % of reading (% RDG of accuracy)
= {(Measured value -true value) / (true value)}\* 100

2] Accuracy in % of full scale (% FS)

% FS accuracy = {(Measured value -true value) / span}\* 100

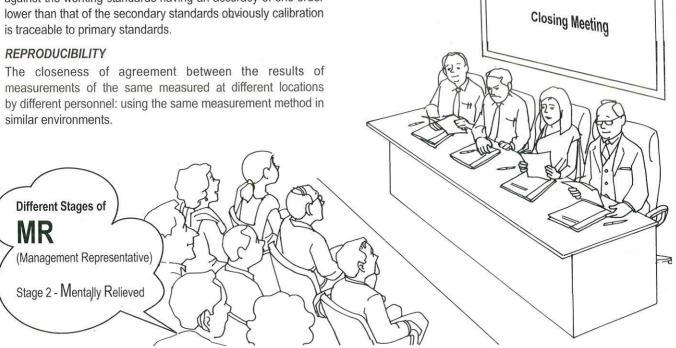
#### **CONFIDENCE LEVEL**

It is the measure of the degree of reliability with which the results are expressed. If x is a measured value of a quantity with uncertainty U at confidence level of 95%, it implies that the probability, the true value of the quantity lies in between x -U & x + U, is 95%. In other words, if the same quantity is measured by any other observer with an unbiased instrument, a large no. of times, then 95% of the values of the measured quantity will lie in between x -U & x + U



Mr. K. S. Yenpure (Managing Director) Yenkay Instruments & Controls Pvt. Ltd. Pune.

Mr. Yenpure is a Bachelor of Science & DERE by Educational Qualification. He is also a Certified QMS Lead Auditor. Running a Calibration Laboratory for Last 15 years. His working Experience includes BARC Mumbai, NCL Pune, JN Marshall Ltd. for 18 years. He is Recipient of various honours which includes Rajiv Gandhi Excellence Awards, Udyogshree Gaurav, etc.





### **Feature on Calibration**

Calibration: The Need Of The Technology Driven Industry

By Mrs. RANI ALULKAR

Kudale Calibration Laboratory Pvt. Ltd. Pune.

The activity of Calibration received importance, when the quality became the prime consideration in the industry. The parameters, which determine the competetiveness of any manufacturer are broadly listed as Quality, Cost and Delivery. In a buyer's market, the customer demands good quality product at reasonably low cost and expects immediate delivery. The periodic calibration of measuring instruments used in the manufacturing thus becomes the thrust area in maintaining quality of the product.

The calibration is nothing but determining the deviation of the indication of measuring instrument from the conventional true value of the measure. These deviations are documented in the tabular form called calibration report. In simple words, the process of comparison against a standard and making any necessary adjustment, if required, is commonly called "Calibration." It is very much important to get the gauges, instruments calibrated periodically, before they are used in measurement or inspection. It gives us best possible results and quality assurance of the product.

The most known example is "Bhopal Gas tragedy". If precalibrated pressure gauge would have been used in the gas plant, the gas leakage would have been detected on time & the disaster would have been avoided, saving lives of thousands of innocent people. The selection of the calibration Agency is a simple process, provided the selection norms are determined earlier. The calibration can be performed in house, if possible, or otherwise can be calibrated from the outside calibration agency. The selection of the calibration agency should be based primarily on its scope of activity. If there are more than one accredited laboratories available, then study the scope of accreditation mentioned in the certificate of each one of them. The Laboratory based on Best Measurement Capability (BMC) in terms of uncertainty, should be the choice from the available list. It is obvious that you select the laboratory, which is having best measurement capabilities at lower side. The Lower Best Measurement Capability means, the laboratory is having good environmental conditions such as temperature, humidity etc. It also ensures that the laboratory is having better control over the parameters, affecting calibration such as vibration, illumination etc. and the skilled and well trained persons, sophisticated instruments with better resolutions used for calibration purpose, are the treasured assets of the laboratory.

There are greater advantages of the NABL acreditation. Primarily it gives the clear picture about the measurement capabilities of the Laboratory to the prospective customer. The acreditation helps in standardization of the level of the laboratory & explicitly explains its scope of operation.

This is a kind of grading, which increses the confidence level of the users of the facility. If any agency or Laboratory wants to go for NABL accreditation, it should select the field & the parameters, for which they want to seek accreditation. The laboratory has to select the masters, Standards, instruments, which are to be used for calibration. and implement the quality management system with respect to ISO/IEC 17025-2005 requirement and NABL

Guidelines. Prepare the necessary documents, such as Quality Manual, Procedure Manual etc. While implementing the system, the laboratory may require the help from the outside agency. The cosultant should be well trained at NABL system. After implementation, the laboratory should conduct the internal audit and management review. After the preparations, submit the application form to NABL with supporting documents. The NABL officer scrutinizes the same. If the discrepancy is not observed, then NABL appoints a lead assessor for the laboratory to be audited. The Lead assessor after going through the documents, sends an adequacy report to NABL. As per adequacy report, corrective action is to be taken by the lab, if required. It is to be informed to Lead Assessor. Then the pre-assesement of the Laboratory is performed by the Lead Then the pre-assesement of the Laboratory is performed by the Lead assessor. accompanied by the technical assessor. The Lead assessor will check the system implemented and the technical part such as Calibration activity, Instrument History, Environmental Conditions are checked by the technical assessor. This team submits the compliance report to NABL. If it is satisfactory, then the final assessment is conducted by the Lead Assessor with Technical Assessor.

When the system set up by the laboratory fulfills the requirements of NABL - ISO/IEC 17025 Guidelines, the Lead Assessor and Technical Assessor send their reports to NABL. Then the scope with BMC is put before the board of accrediation. The board scrutinizes the report. When the board approves the result, the same is taken up to the Director of NABL. And then the Laboratory or agency gets the NABL accreditation for the particular scope or parameter. It is easy to get an accreditation, but it is difficult to maintain the system implemened.

The laboratory must be careful about the system they have set up and should strictly adhere to that which is established. The term 'System' means, the quality, administrative and technical system that governs the operations of a laboratory. The main benefit of this accreditation is to establish the national and the international traceability. The benefits of the calibration process are numerous. The gauges, instruments need to be calibrated before they are used. The absence of calibration affects the product quality, and increases the rejection. The timely calibration increases the confidence level of users & the manufacturers of the products. It is highly recommended to get an artifact calibrated from the NABL Accredited Laboratory, so as to establish the national & international traceability of measurements.

The Calibration reports should be simple, easy to understand, with good readability, and with complete information regarding the artifact and master or standard used for calibration. After going through the results, one must get clear information about the artifact, its further use etc. It is interesting to note the example of the Plunger type dial gauge of 10 mm travel and 0.01 mm Least count. The Dial Gauge is calibrated by the Accredited Laboratory,



with valid standard instrument at their end. In the certificate of Dial Gauge, the error quoted by the agency is say 20 µm and the BMC for Dial Gauge quoted in report is ± 3 µm. Then customer has to take the decision, whether to use it further or not. In this case, considering the BMC, the maximum possible error can go upto 23 µm, which is not permissible as per IS-2092. So the customer has to discard the same or get it repaired. The repairs of instruments for calibration can be done from outside agency. If the instrument is found damaged by visual check, then it can be repaired by well trained agency. Then it is calibrated by the accredited laboratory. If the results for the same are within the acceptable limit, then the calibration certificate can be issued, otherwise it can be sent again for further repairs, until the results are within the acceptable limits. If this is not possible, then it is necessary to discard the instrument. The Calibration of the instrument is a skilled job. It is necessary to create awareness in our Country about this activity, since there are still misunderstandings even after more than a decade old activity. There is still a derth of trained people, whose concepts are clear & at the same time their knowledge is backed by the experience & necessary skills to handle the sophisticated instruments. It is high time that technical educational institutes should give a thrust on this area in their curriculum & create interest amongst the younger generation about this subject.



## Tips for Evaluation

... for Calibration Agency

Guide Line while selection! the Vendor for Calibration Services Points to be Consider

- 1. Organization:
- Type of Organization i.e. Proprietary, Partnership Pvt Ltd. Etc.
- ♣ Year of Establishment. ♣ Organization Structure.

3. NABL Certification: NABL is National Accreditation Board for Testing & Calibration Laboratories. NABL Certification Authorizes the Organization for Calibration of Instruments in the specific field. It has got International Tractability as under.

Local Lab

NABL

**APLAC** (Asia Pacific ILAC

Lab. Accreditation

(International Lab.

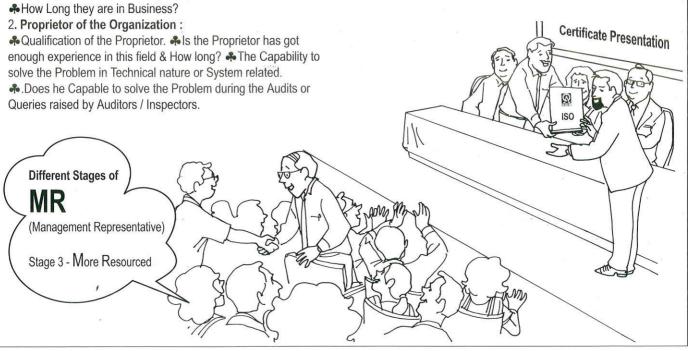
Council)

Accreditation Council)

- 4. The Standards Lab is having : What are the Standards or Master Instruments Laboratory is having. What are the Accuracy Levels. This is to be verified by visiting the Laboratory.
- 5. Calibration Certificate Format: Does the Format is as per Standard ISO/IEC/17025 and is approved by NABL?
- 6. Quality Control: What is the Quality Control practice followed by the Vendor?
- 7. Service: Is the Vendor offering Professional Services?
- 8.Clientele: What is Customer base? Has the Vendor carried out similar jobs elsewhere?
- **9. Training:** Are employees of the Vendor trained for jobs they are carrying out?
- 10. Customer care, complaint & feedback:

Does the Vendor has have System to take care. of Customer Complaints and Customer Feedback etc.?

- 11. Reputation of the Organization in Market:
- 12. Master Instruments: Accuracy of the Master Instrument using for Calibration and how much precise they are.
- 13. Technical Knowledge & Capability to solve Technical **Problems**
- 14. Experience of Running the Laboratory.
- 15. Up -gradation of Facilities.







## **Feature on Calibration**

## LABORATORY ACCREDITATION THE NABL WAY

#### Introduction: -

Laboratory Accreditation is the formal recognition that the laboratory is technically competent to carry out specific calibration or types of calibrations. The term accreditation implies a precisely defined evaluation process that is used in the laboratory approval. The purpose of accreditation is to provide customers with high degree of confidence that the laboratory has the technical competency & adequate quality systems to perform calibrations to an agreed standard. The Laboratory Accreditation was first started in Australia in 1947 & later on in other countries. In India it was formulated in 1982 under the name" National Co-ordination of Testing & Calibration Facilities" (NCTCF). In 1994 it was restructured under the name "National Accreditation Board of Testing & Calibration Laboratories" (NABL). The standard ISO/IEG Guide 25 becomes the basis of operation of NABL.

#### **Accreditation Process -**

The process of accreditation is as follows -

- The laboratory submits the application form along with processing fee & Quality Manual to 'Accreditation Body'.
- 2) On receiving the application the 'Accreditation Body' appoints the 'Lead Assessor, & send him Quality Manual.
- 'Lead Assessor' review the Quality Manual & Pre-assessment is carried out.
- 4) Pre-assessment visit report is send to NABL.
- Appointment of On-site Assessment Team-The team consists of Lead Assessor & Technical Assessor who are experts in their fields.
- 6) The team carryout assessment of laboratory & send their reports to NABL.
- 7) NCR-closing & verification visit by assessor.
- 8) Recommendation for accreditation by Lead Assessor & his team
- The reports of assessment is discussed in the meeting of the Evaluation Panel of NABL.
- 10) The decision taken by the Evaluation Panel is communicated to the laboratory.

#### Accreditation Standards-

The intent of accreditation is to demonstrate compliance of calibration activities with internationally accepted requirements of the ISO 9000 series of standards ISO/IES GUIDE 25. An accreditation laboratory demonstrates that its operation, measurement capabilities & quality systems are in line with the standard. The standard ISO/IEC Guide 25 is now replaced by ISO/IEC 17025-1999. At Present the standard is ISO/IEC 17025 2005

#### **Organization & Management**

An accredited laboratory is identifiable separate entity and established organization. With legal identity. All personnel are aware of the extent & limitations of there responsibilities. There is technical manager who has overall responsibility for the technical operations of the laboratory and Quality Manager who has responsibilities for the quality system & its maintenance. The laboratory has adequate procedure to protect customer's confidential information.

#### Quality System, Audit & Review

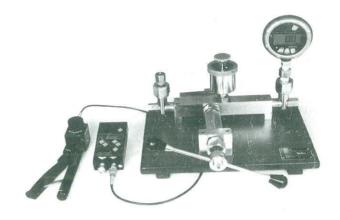
A Calibration Laboratory maintains a quality system appropriate to the type, range & volume of work performed. Laboratory's audit/review report, methods, procedures and records are checked very carefully during NABL assessment. 0.

#### Assessment of Technical Competence-

The Lead Assessor & Technical Assessors visit laboratory for Technical Assessment. Assessor has to make sure that the laboratory is technically competent for carrying calibration for which it is seeking accreditation. The laboratory has all the required infrastructure, know-how, staff, instruments etc.

#### Personnel

The laboratory has adequate personnel with necessary educational qualification; training & experience of the technical persons are maintained by the laboratory & are checked during NABL Assessment.





#### Environment

Environmental conditions like Temperature, Humidity, Noise level, Illumination, Vibrations are maintained by the laboratory as per standard to support proper performance of the measurement. Laboratory personnel are monitoring, controlling & recording these environmental conditions. Where appropriate correcting compensation is applied to measurement results. Adequate measures are taken to ensure good house keeping in the laboratory.

#### **Measurement Equipment & Tractability**

Calibration laboratory follows a definite calibration programmed & ensure that all master instruments are calibrated for their functions & range. The master instrument is labeled for indicating their calibration status. The record of master instruments is maintained. The calibration certificate of master instrument indicates "Tractability" to their calibration to National ! International standard through an unbroken chain of NABL accreditation calibration laboratories.

#### **Calibration Methods**

The laboratory has appropriate calibration methods & procedures based on national or international standards. Where it is necessary to employ other method, it is documented, controlled, validated and agreed with client. Work instructions are available to laboratory personnel for use & operation of relevant instrument, preparation, handling & storage of test items, instruction manuals, standards etc.

#### Certificates & Reports-

The results of calibrations carried out by reported accurately, clearly, unambiguously in accordance with the specific calibration method. The results are reported in the calibration certificate & include all information requested by client & as per standard.

#### **Customer Complaint**

The laboratory has procedure for the resolution of complaints received from customers. A record is maintained of all complaints received & the laboratory takes the corrective action.

#### **Proficiency Testing**

An artifact (sample) with known values is circulated amongst the selected calibration laboratories. The individual laboratories are required to communicate their measurement data to nodal body. The nodal body evaluates the data on the basis of EN Number! Z factor & feedback is given to participant laboratory. It is compulsory to all laboratories to take part in Proficiency Programmed. Without this no accreditation certificate is issued. The Proficiency Testing is one of the important tools used by the laboratories & accreditation bodies for monitoring test & calibration results.

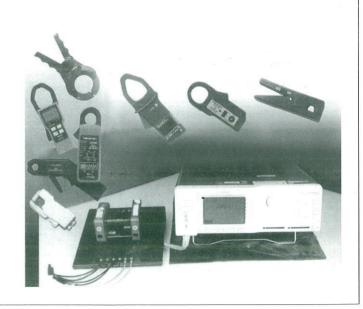
#### **Global Acceptance**

When a company wants to sell its products in another country, it wants the calibration made to be acceptable & usable to the customer in that country, It is possible through MRA. The MRA (Mutual Recognition Agreement) is a document by means of which the signatories can more formally recognize one another's accredited laboratory. The NABL is qualified for APLAC MRA (Asia Pacific Laboratory Accreditation Corporation). In Nov. 2000 during ILAC meeting 28 countries covering 37 Accreditation Bodies signed ILAC MRA (International Laboratory Accreditation Corporation) & it was inclusive of NABL as a signatory based on its qualifying APLAC MRA. This implies that the Calibration & Test \*certificate for NABL accredited laboratories will be acceptable to the other ILAC MRA -- & APLAC MRA members.

#### Why to use accredited Laboratories

Laboratory Accreditation provides a means of evaluating the competence of laboratories to perform specific types of tests & measurements by third party assessment & following international guideline.: Laboratory Accreditation also provides feedback to the laboratories as to whether they are performing their work in accordance with international criteria for technical competence. Manufacturing organization should use accredited laboratory for their calibration jobs to enhance the accuracy, precision & reliability of test & measurement. Laboratory accreditation provides a ready means for customers torfind competent & reliable sources of testing & calibration service to meet their needs. Calibration results of Accredited laboratories are globally accepted.









## Calibration Facility At Ics Technologies, Nasik

ICS TECHNOLOGIES is established as an independent, reliable & professional testing & calibration facility. It has been established to cater the growing needs of the manufacturing & service industry. ICS TECHNOLOGIES undertakes certification of the product as per CE marking. ICS TECHNOLOGIES Laboratory is setup at Nasik & is well equipped with latest measurement & calibration of Mechanical, Linear & Electrical instruments.

ICS TECHNOLOGIES is established in year 2003 & owned by Mr. Sumeet .S. Kataria. He is General Manager of the organization. ICS TECHNOLOGIES is committed to give solution under one roof for testing & calibration. ICS TECHNOLOGIES is having a well trained & experienced technical staff to execute the job. ICS Technologies divided into four main branches which is Mechanical testing & calibration, Electrical testing & calibration, metallurgy & Chemical testing. Each department has a Technical In charge for the departmental activity. Mr. Vishal Hyalij is Totally responsible for Mechanical calibration & Testing, Mr. Yogesh Deore is responsible for the Electrical testing & Calibration, Mr. Mahesh Sonwane is responsible for Metallurgical department, Miss Shivangi Khairnar is responsible for the all-Chemical analysis.

#### **List of Master Instruments**

S.No.	Name of Instrument	Make	Accuracy	Traceability
1	Master Scale 0-1000mm 0-300 mm	Sharp	Cal. grade	NPL
2	Steel Angle Gauge	Mikronix	'O' grade	NABL
3	Digital dial calibration tester	Solatron (England)	0.05 microns	ERTL (Mumbai)
4	Tungsten Carbide slip gauge set	Mikronix	'O' grade	NABL
5	Microcal 200 + (Pressure Tester)	Eurotron	0.05 %	ERTL
	-0.8 to 700 bar	(ITALY)		(Mumbai)
6	Microcal 200 + (Electrical &	Eurotron	0.02%	ERTL
	Temperature) 50 to 1200°c	(ITALY)		(Mumbai)
7	Thermocouple (K Type )	Nagman	1.1%	ERTL (Mumbai)
8	Steel Caliper Checker 0-1000mm	Mikronix	'O' grade	NABL
9	Electronic Weighing Balance	Sartorious		ERTL
	0.1 mg to 220 g			
10	Weight Box 1mg to 200g	Super fit		ERTL
11	Measuring Tape 0-5 mtr 0-30 mtr	Freemans	Cal grade	NPL
12	Digital Multimeter	Rishabh	0.1 %	ERTL (Mumbai)
13	Standard Weights (0.5,1,2,5 Kg)	Super fit		Government
				Regional lab
14	Digital Tachometer	Extech	0.05%	ERTL (Mumbai)
15	Digital Stop Watch	Casio		ERTL (Mumbai)
16	Micrometer Checker 0-100mm	Mikronix	'O' grade	NABL
17	Coating Thickness Gauge	DeFelsko		DeFelsko (New York)
18	Hardness Tester (Rockwell & Brinell)	Blue Steel		ERTL
19	Depth Micrometer Checker 0-300mm	Mikronix	'O' grade	NABL
20	PH Meter 0-14 PH with buffer	Control		
20	solutions	Dynamics		
21	Surface Profile Gauge 0-5 mm	PCWI	0.001 mm	PCWI
22	Micrometer Checker	Mikronix	0-300 mm	Mikronix
23	Non Contact Thermometer	Optex	-30-430	
24	Magnifier	Light	2x, 4x	
		Vision		2 2 .
25	Surface Plate	RMPL	1200*900m	
26	'Loose Slips	Luffron	0.5,1.005	
27	Plunger Dial Gauge	P. Dalal	0-1 mm	Mikronix
28	Bore Dial Gauge	P. Dalal	4.5-8.5 mm	Mikronix
29	Dead Weight Tester	Ravika	0.25 %	
30	Digital Vernier Caliper	P. Dalal	0-150 mm	

We are having following instruments calibration & repairing facilities.(Mechanical & Electrical)

#### **CALIBRATION FACILITIES**

Sr.No.	Name of Instrument	Range
1	Vernier	0-1000mm
2	Micrometer (Outside & Inside)	0-300mm
3	Vernier Height Gauge	0-1000mm
4	Depth Vernier & Depth Micrometer	0-300 mm
5	Plunger dial gauge	0-25mm
6	Lever dial gauge0	0-25mm
7	Bore dial gauge0	0-100 mm
8	* Plain Plug Gauge0	0-100 mm
9	Thread Plug Gauge	All
10	Steel Rules0	0-1000mm
11	Measuring Tape	0-30 mtr
12	Bevel Protractor	Complete Range
13	Surface Plate	All
14	Pressure Gauge	-0.8 to 700 bar
15	Temperature Controller	r-50 to 1200°c
16	Temperature Sensor	All
17	Multimeter	Complete Range
18	Timer	All
19	Voltmeter/Ammeter	All
20	Frequency Meter	All
21	Pressure Sensors	All
22	Weighing Balance	0-20Kg
23	Tachometer	Complete Range
24	Coating Thickness Gauge	Complete Range
25	Plastic Foils	All
26	PH Meter	0-14 PH
27	Hardness Tester	Rockwell & Brine
28	Master Pressure Gauges	-0.8-700 bar

#### ... ... IOD OLIENTO

1.	Hindustan Lever Ltd
2.	Everest Industries Ltd
3.	Maharastra state electricity generation co, Nagpur
4.	Everest Industries Ltd
5.	PWD, Nasik
6.	Railway Traction M/c Workshop
7.	ONGC
8.	Jindal Saw Pipes
9.	McDowell & Company
10.	Bilag Industries, Vapi
11.	Tina Overseas, Mumbai
12.	Graphite India Ltd



## Station's Highlights

- ICS Indore: has certified following prestigious clients for ISO 9001:2000
- Tropex Electronics
- Kuber Lighting

Carried Out Third Party Inspection For Following Clients

- Indore Nitriders
- United Metals (India)
- ICS Belgaum: has certified following prestigious clients for ISO 9001:2000
- MUDIT INDUSTRIES, GOA.
- ICS Kanpur: has certified following prestigious clients for ISO 9001:2000
- Saroj Textile Ltd.
- Research Design and Standard Organisation (RDSO)
- P.N. Gupta & Sons
- Viraj Syntex Pvt. Ltd.
- Brij Medical Centre Pvt. Ltd.
- Impartial Testing
- Rekan Extrusions Pvt. Ltd. (Steel Division)
- ICS Pune : has certified following prestigious clients for ISO 9001:2000
- AMEYA CLINIC PVT. LTD.
- PRISM ELEÇTRONICS PVT. LTD.

has certified following prestigious clients for ISO 14001:2004

DSK-TOYOTA

ICS Pune has achived a record number of Certification Audits in a Month - 40 (Fourty) in December 2005

- ICS Hydrerabad : has certified following prestigious clients for ISO 9001:2000
- Indian Oil Corporation Limited (Marketing Division, Kakinada
- Jyothi Dairy Private Limited
- Cream Line Dairy Products Ltd
- Cream Line Nutrients Ltd

has certified following prestigious clients for ISO 14000

- Hindustan Petroleum Corporation Limited,
- Vizag Secunderabad Pipeline
- ICS Jaipur : has certified following prestigious clients for ISO 9001:2000
- Kansara Bearing Ltd. Jodhpur
- Kansara Modler Ltd. -Jodhpur
- ICS Kolhapur : has certified following prestigious clients for ISO 9001:2000
- Aadi Plastics Pvt.Ltd.
- Narmada Infrastructure P.Ltd.,Sangli
- Kolhapur Rubber Factory
- Rajlaxmi Plastics
- ICS Udaipur : has certified following prestigious clients for Integrated Management System
- Central Research & Development Laboratory,
- Hindustan Zinc Limited.
- ICS Nagpur: has certified following prestigious clients for ISO 9001:2000
- Nowelco Industries Pvt. Ltd. Raipur
  has certified following prestigious clients for ISO 14001;2004
- National Fertilizers Ltd., Vijaypur Dist. Guna.

## **Diary Notes**

From	То	Place	Training course	Contact details
6/02/06	10/02/06	Pune	Lead Auditor Course (5 days) QMS.	Sejal Ruplag ics_pune@vsnl.net ics_pune@icsasian.com 020_25455206, 25424204 09881477059, 9850895709
22/02/06	23/02/06	Punė	IQA ISO 9001 : 2000	Sejal Ruplag ics_pune@vsnl.net ics_pune@icsasian.com 020_25455206, 25424204 09881477059, 9850895709

## Customer's Platform



Mr. B.Shankar, MD of PKL Ltd. Receiving ISO Certification from ICS Hydrabad.



Mr. Muliya Sham Bhatta & His Sons Receiving ISO Certification From Mr. Jayshankar, For Muliya Keshava Bhatta Jewellers & Puttur Jaycees.



Mr. Jitendra Mali, CEO & Mr. Amol Karandikar, General Manager of DSK TOYOTA & DSK MOTORS LTD. Receiving ISO 14001 Certificate from Mr. Uday Dharm.





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16	Temperature Sensor	All
17	Multimeter	Complete Range
18	Timer	All
19	Voltmeter/Ammeter	All
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#### OUR MA IOR OUTENTO

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4.	Everest Industries Ltd
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6.	Railway Traction M/c Workshop
7.	ONGC
8.	Jindal Saw Pipes
9.	McDowell & Company
10.	Bilag Industries, Vapi
11.	Tina Overseas, Mumbai
12.	Graphite India Ltd





## Honored to MD



## 1st ISO 22000-2005 Certificate Issued to Foster's India Ltd.

### CERTIFICATE OF COMPLIANCE



FOOD SAFETY MANAGEMENT SYSTEM of

### FOSTER'S INDIA LIMITED

Plot No. M - 99, M.I.D.C., Waluj, Aurangabad - 431 136, Maharashtra, India.

has been assessed by International Certification Services (Asia) Pvt. Ltd. and registered as complying with the requirements of the following International Standards :

ISO 22000: 2005

The Food Safety Management System is applicable to:

Scope : Manufacturing of Beer.

**Expiry Date** 

Registration No. : RH91/1689 Registered Date : 28th December, 2005 : 3 years : 27<sup>th</sup> December, 2008



JAS-ANZ

Accredited by Joint Accreditation System of Australia and New Zealand

A Bi-monthly News letter is published, printed and Edited by SUNDAR KATARIA on behalf of

International Certifications Services (Asia) Pvt. Ltd.

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