सूक्ष्म, लघु एवं मध्यम उद्यम
MICRO, SMALL & MEDIUM ENTERPRISES

FINAL REPORT

Evaluation Study for Continuation of the Scheme "MSME – Testing Centres / Testing Stations" in the 12th Five Year Plan period

SUBMITTED TO:

Office of the Development Commissioner
Ministry of Micro, Small and Medium Enterprises
Government of India
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EXECUTIVE SUMMARY

1. The overall objective of the Evaluation Study of the Scheme "MSME-Testing Centres and Testing Stations" is to get a clear picture of how successful the scheme has been and to suggest how the Testing Centres/Testing Stations can be made more relevant to the needs of the MSMEs in Testing and Calibration and thereby in upgrading the quality of products manufactured by them.

2. The **Draft Evaluation Report** has been prepared based on detailed discussions with concerned officials of DC-MSME, perusal of scheme related documents available, including periodic reports submitted by TCs and TSs, and one to one interactions with various stakeholders such as all four Testing Centres at New Delhi, Mumbai, Kolkata, Chennai, seven Testing Stations at Jaipur, Bhopal, Kolhapur, Hyderabad, Bangalore, Puducherry, and Ettumanur, 200 MSMEs (Users of services of TCs/TSs as well as non-users, 28 Industry Associations at each of the locations, and 25 Competitive Testing Agencies (Govt. and private sector) at these locations. The one to one interactions were held through structured questionnaires, duly approved by DC-MSME at the Inception stage.

3. **The key findings of the Evaluation Study are summarized below:**

- **Relevance of the Scheme Objectives**

  The original objectives of the schemes for "MSME- Testing Centres" introduced in 1974, and "MSME-Testing Stations" in 1983, continue to be relevant today as the Micro and Small enterprises are growing and require technical support in quality / testing / calibration areas when they are meeting with global competition.

  In the context of the emphasis on development of the MSE sector, promotion of exports of MSE products, and enhanced government purchases from MSEs, the facilities and services offered by TCs and TSs, will become increasingly important in the coming years.

  Further, micro and small enterprises constitute about 60% of the total number of customers served by all TCs and TSs, increasing from about 48% in 2007-08. TCs and TSs offer a concession of 25% on the normal tariff to MSE customers and provide in-the-Lab training at TCs /TS the technical staff of MSEs, on payment of nominal fees.

  Under the **Public Procurement Policy**, which came into force with effect from 1 April 2012, every Central Ministry or Department or Public Sector Undertaking (PSU) is required to set an annual goal of procurement from MSEs from the financial year 2012-13 and onwards, with the objective of achieving an overall procurement of minimum of 20% of total annual purchases of products produced and services rendered by MSEs in a period of three years. After a period of three years i.e. from 1st April 2015, overall procurement goal of minimum of 20 per cent shall be made mandatory.

MSME TCs and TSs can play an effective and crucial role in assisting the MSEs in this regard, both as a provider of testing & certification services (at a concessional cost) and also through provision of technical capacity building support through in-the-lab training at a nominal cost.

- **Level of Technology and Equipments**

  The Testing Laboratories of the TCs are fairly well equipped with adequate facilities for testing products and raw materials and carrying out calibrations in the main fields required by MSEs.

  During the 11th Plan period the TCs have not been able to keep up sufficiently with the competition in terms of induction of latest technologies and rising needs of customers.

  Further, Investments across the TCs and TSs have not been uniform or adequate.

  With the introduction of NABL accreditation and growth in the needs of MSMEs, industrial testing and calibration has become an attractive service industry and many private testing / calibration laboratories have come up at the same areas as the TCs and TSs.

  There is a definite need for TCs and TSs to revamp, modernize and balance their facilities, and generally organize better. Investment in technology up-gradation and modernization during the 12th Plan need to be more than double of the 11th Plan figure with due inflation-correction so that the TCs and TSs can remain competitive and meet the growing needs of MSEs.

  The Working Group on MSMEs for 12th Five Year Plan, has in its Report proposed an allocation of Rs.1,000 crores for setting up of 100 new quality testing laboratories including strengthening of existing MSME Testing Centres, during the 12th Plan period. Hence availability of plan funds for technology up gradation of TCs and TSs may not be an issue during 12th Plan and even offers opportunity for a large scale up-gradation to build on the moderate growth during the last two decades.

  TCs and TSs have identified the Investments in Equipments needed during 2012-13 and indicated the road map for the rest of the 12th Plan. It is recommended that needs for the entire 12th Plan be identified and planned ahead with the help of scientific market analysis.

  In addition to the induction of latest technology and equipment, general house-keeping in the laboratories and sample rooms needs improvement, especially in the TSs, as it affects the Lab environment, function as well as the general perception about the Centre. Since such requirements cannot always be foreseen in advance, the concerned Director could be empowered to sanction work up to Rs. 2 lakhs through approved agencies instead of depending only on CPWD.

TC Delhi, the biggest Testing Centre can be provided an overall upgradation and modernization under the National Centre for Quality Testing (NCQT) scheme, to achieve up-gradation of all testing / calibration labs, balance the testing facilities, to be able to provide testing facilities as per international standards and also add new features such as testing of toxins, microbiology tests, radio nuclide tests, CFL & Luminaries testing etc

TS Bangalore with facilities of only electrical product testing needs technology upgradation to cope with the competition. The proposed tie-up with IDEMI, Mumbai will be hence beneficial to both these institutions.

- **NABL and Other Accreditations of TCs and TSs**

NABL Accreditation is one of the most important requirements for any testing and calibration service provider. The four MSME-TCs who are all NABL accredited for important parameters in both Testing and Calibration need ensure timely action to maintain their accreditation and also expand the scope of accreditation in both testing and calibration to cover more parameters and range to cover areas / scopes of some of the tests that are out outside NABL accreditation at present.

The TSs which are not yet NABL accredited should get the same during 2012 to 2014.

DC-MSME may consider engaging external consultant(s) to review the requirements at each TC/TS on a periodic basis and also validate the financial support estimated by the respective Directors Incharge.

More NABL and Lab Quality System related training need to be arranged - e.g. the technical officers of TSs which are not yet NABL accredited, could be sent for a week to acquaint with the Lab Quality System at the TC. Special subject related training also needs to be arranged at other Ministries' labs, National Laboratories etc.

DC-MSME may also introduce NABL-accreditation related targets for the TSs and monitor the progress through the Monthly Progress Reports.

- **Performance of the MSME TCs and TSs**

The self sufficiency ratio of the TCs and TSs suffered a setback since 2008-09, mainly due to increased salary expenditure. However testing revenues have shown steady growth by the end of 11th Plan.

The present mechanism for setting revenue and SS Ratio targets for the TCs and TSs appears to be an academic exercise with very little bearing on the subsequent targets and financial allocations.

It is proposed that target setting should be made into a participative exercise, with respective TCs and TSs being involved in the process, by inviting them to

prepare their projections for Revenue and SS Ratio for the next year. This will bring in ownership on the part of TCs and TSs and therefore greater commitment for meeting the targets.

The concerned Directors of TCs/TSs need be empowered to have some control over the expenditure under Salary head.

In order to formalize the technical and/or administrative jurisdiction of TCs over respective TSs, DC-MSME may also consider to introduce a system wherein while computing the performance (revenue and SS Ratio) of the TC, the figures of the TSs under their jurisdiction are also included. This could serve as an incentive for the TCs to perform their role vis a vis TSs more actively.

It is also felt that 'No. of Jobs' could be dropped from targets as there is not much uniformity in size of jobs, and the definition of a job itself is very flexible.

DC-MSME may consider introducing an Incentive for achieving / exceeding the targets, e.g. giving an annual cash award to all the staff of the Centre which exceeds the target, as being done by NTH now. Mid-term review of performance and advice for course correction, as required, may be introduced.

- **Average Waiting time after a Testing/Calibration job is booked**

The "delivery period", that is the time taken from Job booking till delivery of reports is often a very important consideration for the users in selecting the agency. The time taken by the TCs and TSs appears to be generally more than the competitors from the private sector, as indicated in the feedback of MSMEs as well as Associations.

While the actual test duration as per the standard procedure for each test cannot be disputed, it is the waiting time before the test and time taken for preparing the report that is causing the delay, which needs urgent improvement across all TCs and TSs.

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It is recommended that an Index of Delivery Period be worked out for each TC and TS and effort be made to bring the same down on par with private sector competitors, over a defined period of time.

Bringing down the delivery period will have a substantial positive effect on the Revenues and therefore also the self sufficiency of the TCs and TSs.

- **Training & Consultancy Activity**

Training and Consultancy are not the mainstream activities for TCs and TSs at present. While none of the TCs undertook any consulting activity, even training activity has been on a very low scale, contributing very little revenue.

Infrastructure for training activity at the four TCs is very inadequate and almost non-existent at the seven TSs.

Even well running and revenue earning training courses like the Radiography Training at TC Mumbai with tie-up of BARC have stopped due to financial inflexibility. It is also recognized that even if more emphasis is placed on promotion of these activities, their contribution to the revenue is still likely to remain small.

The 12th Plan Panel on MSMEs has placed great emphasis on enhancing training facilities for MSMEs and specifically recommended enhancement of the training facilities at TCs and TSs. Provision of necessary fund allocation is proposed for this purpose.

In case the Training function is to be stepped up as a mainstream activity, then TCs should be supported with financial flexibility and dedicated resources to form a Training Division and adequate training infrastructure needs to be built up during 12th Plan.

Training as a service for MSMEs may also be considered a part of promotion and market development for the TCs and TSs as provides an effective forum for visibility and engagement with industrial units in the area. Looking from the view point of MSMEs, there is always need for Training facilities related to Quality System, Testing, Calibration etc.

However, there is a strong case for discontinuing Consultancy as mandated service of TCs and TSs. They may continue to provide need based informal consulting support to MSMEs

- **Staffing**

Shortage of technical and managerial staff is one of the major operational constraints faced by the TCs and TSs. Manpower inadequacy and imbalance are affecting growth of revenues as well as NABL accreditations.

Process of allocation and posting of staff needs to be streamlined. Since Self-sufficiency Ratio is a concern, and 90% of recurring expenditure is towards salaries, the staff structure needs rationalization. The Directors of TCs/TSs should have a say in the postings and transfers.

More Investigator/Lab Assistant level posts be provided and out-sourcing be allowed at this level for limited periods.

<u>Need for a MSME-Quality Cadre</u>

In comparison to other front-line laboratories, TCs and TSs lack a dedicated Technical / Scientific Cadre. Other laboratories like NTH, ETDC, ERTL etc. as well as leading private testing and calibration laboratories have their own

Technical/ Scientific cadre, which gives them a competitive edge over TCs and TSs

It is recommended that MSME- Dept put in place necessary policy initiatives to build such a cadre over a period of time. Staff with qualification and experience in specific laboratory field need to be recruited for TCs and TSs. Existing staff transferred from MSME-DI etc should have the right background, aptitude and inclination for Lab related work. Experienced laboratory staff should be retained within the domain of TCs and TSs, even on promotion. The rule of compulsory transfer to North East may be relaxed in their case.

- **Staff training**

The Technical Training provided to the TC/TS staff requires a qualitative change. There should be more training related to Testing, Calibration, Quality System and Lab Management. TC/TS officers/staff may not be nominated to management and entrepreneurial training along with officers of DIs as their functional requirements are different. TC/TS staff should be sent on training to reputed technical organizations in quality sector both in India and abroad. A list of such training programmes should be circulated to TCs/TSs well in advance. Attending training programmes should be made mandatory depending on the function of the officer/staff at the scale of minimum two trainings per year.

- **Advisory Committee**

Except for TC-Kolkata, where the Advisory Committee has been revived in 2011-12, all other TCs have not had the benefit of an active Advisory Committee for many years. It is important that necessary steps are taken urgently for constituting these committees and regular meetings are held to achieve this objective.

- **Demand-Supply Gap Assessment**

TCs and TSs do not have a formal mechanism in place for gathering market intelligence and analysis relating to calibration/testing facilities and demand. This is hampering revenue growth and full utilization of facilities. Investments are also made on the basis of ad-hoc feedback from MSME sources.

A formal mechanism is required for yearly market survey and analysis, for which necessary training and initial guidance may be arranged from suitable professional agency to acquaint the selected TC/TS officers with Market Survey methodology and Analysis.

More engagement with local and regional industry associations can be very helpful in this regard. The Advisory Committee can also provide guidance for the same.

- **Testing Charges**

  The testing Charges levied by the TCs and TSs are at the middle level when compared to other competing laboratories. National Level Laboratories and reputed Private Sector agencies are at the higher end while the smaller, local private laboratories providing testing or calibration are at the lower end.

  The testing charges of TCs and TSs are at present cost effective, variations within the TCs have become less over the years and they are comparable with the tariffs. NTH as well with the BIS approved rates

- **Competition**

  The MSME Clusters being developed with governmental support are including Testing Facilities in their CFC projects. Some such CFCs are in the same area where TSs operate like TS Kolhapur and TS Bangalore. Authorities may put in place a mechanism to ensure that there are no duplication of facilities in such cases

  The Increasing trend of MSEs setting up their own In-house testing facility could be another threat to the TCs and TSs in the fields of Spark Analysis of metals, Tensile test, Hardness test etc. Timely identification investment by TC /TS in emerging fields and to meet emerging demands would be the solution.

  As part of gearing up for competition, the TCs and TSs need to be supported in adopting international standards and global best practices. For this a **Centralized BIS Standard E- library** may be maintained under multi-user account by any of the MSME TCs, so that other MSME TCs/ TSs can get copies of the standards without having to buy BIS standards in DVDs at cost of Rs. 3 to 4 Lakh

4. Overall the Evaluation brings out that the Scheme – MSME Testing Centres and Testing Stations, continues to be relevant, as the TCs and TSs established under the scheme have not yet reached the self sustaining level of operations. Therefore it is recommended that the scheme be continued for the 12th Plan period, with a mechanism for close monitoring of the performance.

1. INTRODUCTION

1.1 Background

The Office of the Development Commissioner (MSME) under Ministry of Micro Small & Medium Enterprises (MoMSME) has in the year 1974, setup four MSME-Testing Centres (formerly Regional Testing Centres) located at New Delhi, Mumbai, Kolkata, and Chennai under the scheme to provide testing facilities to Micro, Small and Medium Enterprises (MSMEs). In the year 1982, Government of India further set up MSME Testing Stations (formerly known as Field Testing Stations) at Jaipur, Bhopal, Kolhapur, Hyderabad, Bangalore, Puducherry and Ettumanur to serve the testing needs of nearby MSME clusters.

1.2 Objectives of the Scheme

The objectives of the scheme "MSME - Testing Centres/Testing Stations" are:

i. To provide testing facilities to industries in general and Micro, Small & Medium Enterprises in particular for raw materials, semi-finished and finished products, manufactured by them.

ii. To provide calibration services for Measuring Instruments and equipment conforming to international standards.

iii. To render technical support to MSMEs in upgrading the quality of products manufactured by them

iv. To conduct training courses for the benefits of workers sponsored by MSMEs on product specific testing and quality and control so that their units may be in a position to set up their in-house testing facilities.

v. To supplement efforts of BIS towards standardization by way of providing testing facilities to MSMEs/ other industries for obtaining 'BIS" License / Quality Marking etc.

vi. To assist various Government Departments like Railways, Defense, CPWD etc. in testing the materials procured by them from the MSME Sector.

vii. To provide Consultancy services in Testing and Quality management and in-process quality systems to MSMEs

viii. The objective of the scheme of MSME Testing Stations is to extend testing facilities to Clusters of MSME units in the respective area and some strategic areas. These Testing Stations provides facilities for testing of various products viz. chemicals, lamps, rubber products, casting and forgings, paints and varnishes, Electrical Accessories,

domestic electrical appliances, general engineering etc. depending on the area they are located in.

1.3 Expenditure on the Scheme

In order to achieve the above objectives, the annual expenditure of the TCs and TSs on purchase of Capital goods viz. Test Equipment and Machinery & their spares as well as expenses on repairing, servicing, calibration, AMC of Test Equipment and Machinery, BIS/NABL accreditation expenses, training expenses etc are provided under **Plan Scheme**. The personnel/staff of these Centres come from a common pool of MSME Organization.

For the Testing Stations, the entire expenditure including recurring expenditures like salaries & wages, TE, medical etc are met from Plan Funds.

Plan Out-lay for TCs/ TSs

During the 10th Plan Period, a sum of Rs.9.60 crores was provided for modernization of the MSME Testing Centres. However, Rs.8.32 crore had been utilized out of the allocated funds. Of the total, a sum of Rs. 5.80 crore was provided for modernization of MSME Testing Stations, out of which Rs. 4.51 crores was utilized.

For the 11th Five Year Plan, an amount of Rs. 8.95 Crores has been provided for modernization of Testing Centres, while an amount of Rs. 11.57 crores is provided for day to day functioning and modernization of Testing Stations.

1.4 Facilities

Each of the four MSME Testing Centres have separate Divisions for Mechanical, Electrical, Chemical and Metallurgical testing along with Calibration facilities in Mechanical and Electrical Instruments, gauges, Proving Rings etc. All the four Testing Centres are accredited by internationally recognized National Accreditation Board of Testing & Calibration Laboratories (NABL) certification as per ISO (17025). Testing Stations at Bangalore and Kolhapur are also accredited by NABL.

A. MSME Testing Centres

MSME-DO is operating four MSME Testing Centres (formerly RTCs) located at New Delhi, Mumbai, Chennai and Kolkata. The MSME Testing Centres provide testing and calibration facilities to industries in general and MSMEs in particular, for raw materials, semi-finished and finished products manufactured by them. The Centres are equipped with the state-of-the-art indigenous and imported equipments in the disciplines of Chemical, Mechanical, Metallurgical and Electrical Engineering to undertake Performance Test, Type Test and Acceptance Test of semi-finished, finished products etc. The Centres also undertake calibration works for Measuring Instruments and Equipments conforming to international standards. These Centres are accredited by

internationally recognized National Accreditation Board of Testing & Calibration Laboratories (NABL) Certification as per ISO/IEC-17025.

Services other than Testing & Calibration

- TCs render technical support to MSMEs in upgrading the quality of products manufactured by them.
- They provide consultancy services in testing and quality management and in-process quality system to MSMEs.
- Testing Centres impart training in testing products to youth for gainful employment in Quality Control Laboratories of various industries.
- Training courses are provided for the benefit of workers sponsored by MSMEs on product specific testing and quality control so that their units may be in a position to set up their in-house testing facilities.
- MSME TCs organize awareness programmes on total quality for household electrical appliances and allied appliances and ISO-9000 Quality Management Systems for the benefit of micro, small and medium scale entrepreneurs.
- MSME TCs are providing the testing facilities to Bureau of Indian Standards and also assisting various Government Departments in testing the materials procured by them from MSMEs.

1.5 Objective of the Evaluation of the Scheme

The purpose of this **Evaluation Study** is to get a clear picture of how successful the Scheme "MSME - Testing Centres/Testing Stations" has been in achieving its objectives, which would serve as a basis for continuation of the scheme in the 12th five year plan period.

The study shall also indicate how the Testing Centres / Testing Stations can be made more relevant to the needs of the MSMEs & Others in Testing, Calibration and thereby helping in upgrading the quality of products manufactured by them.

1.6 Conduct of the Evaluation Study

M/S JPS Associates Pvt. Ltd., New Delhi, (Consultant) have been appointed by DC-MSME to conduct the Evaluation on their behalf as per the Terms of Reference provided to the Consultants.

A team of qualified and experiences professionals, was mobilized by the Consultant for undertaking the Evaluation.

Initial discussions were held with the concerned officials of Ministry of MSME and DC-MSME to gain their perspective on the major objectives of the study, their expectations from the consultants and to understand the major objectives for setting the TC/TSs and their views on the utility, relevance of these; any proposals submitted by respective TC/TS for upgradation of their infrastructural

facilities and service portfolio in line with the fast changing needs/requirements of the end users i.e. enterprises and particularly MSMEs.

An **Inception Report** was prepared and submitted to DC-MSME detailing the Approach and Methodology proposed to be adopted and the detailed data collection instruments (questionnaires) to be used during the Evaluation. The same was duly approved on 31 January 2012.

In addition to desk based secondary research and analysis of the scheme related documents / information made available by the client, as well as those available in the public domain (mainly through Internet search), an exhaustive primary research was undertaken to obtain feedback and data from a variety of stakeholders, as summarized below:

Sampling Frame for the Evaluation study

	Locations	Number	
Testing Centres	New Delhi, Mumbai, Kolkata, Chennai	**4**	
Testing Stations	Jaipur, Bhopal, Kolhapur, Hyderabad, Bangalore Puducherry, Ettumanur	**7**	
Industry Associations	Same as above	**28**	Approx. 3 per TC/TS
Other Testing & Calibration Agencies (competition)	Same as above	**25**	Approx. 2 per TC/TS
MSMEs			
- Users	Same as above	**157**	Approx. 15 per TC/TS
- Non-Users	Same as above	**43**	Approx. 3-5 per TC/TS
Grand Total		**264**	

A list of primary research contacts is provided at Annexure 1.

1.7 Draft Evaluation Report

This Draft Evaluation Report has been prepared based on compilation and analysis of information and data collected through secondary and primary research during the evaluation study.

The same is being submitted to MoMSME/DC-MSME officials for their feedback and comments.

2. FINDINGS OF THE EVALUATION STUDY

2.1 General Information

The four MSME Testing Centres (MSME-TCs) in Delhi, Kolkata, Chennai and Mumbai were set up in 1974, the locations being selected so as to serve the testing and calibration needs of MSMEs all over the country. Each of the TCs are housed in the MSME Department's premises at the respective locations with adequate area being earmarked for their operations, with TC-Chennai having relatively least area.

The operations of all four Testing Centres are organized into four divisions, namely Mechanical, Metallurgical, Chemical and Electrical, though the level of investment in testing and calibration equipment varies across centres. TC-Mumbai has maximum investment in equipment followed by Kolkata and Delhi. Each of the divisions undertakes testing of MSME Products and raw materials in their respective fields as per applicable standards. They also undertake calibrations of Electrical and Mechanical instruments as well as pressure, torque, temperature devices used by MSMEs.

Level of Technology and Equipments

The Testing Laboratories of the TCs are well equipped with adequate facilities for testing products and raw materials and carrying out calibrations in the respective fields as above, as per relevant standards and ISO/IEC-17025 International Lab Quality system, monitored by NABL. Details of Testing and Calibration of Equipment available with the respective TCs are provided given in separate Annexure.

In the calibration field, MSME-TCs are Level-2 laboratories (at Level-1 are National Laboratories like NPL, ETDC etc.). TC-Kolkata and TC-Chennai have facilities for Electrical and Mechanical Calibrations, while TC-Delhi carries out calibrations in Mechanical field only and their Electrical Calibration facility is used only for internal calibrations. At TC Mumbai both Mechanical and Electrical Calibration facilities are effectively used for internal calibrations only, their annual revenue from calibration being less than Rs.1500.

Expenditure for procurement of equipment and their maintenance are met out of Plan provisions. Proposal for new equipment are initiated normally by the Divisions. Formal technical and financial proposal for procurement of new equipments for modernization/replacement/addition etc. are made by the respective Directors of TC/TS on annual basis. After approval of the same by DC-MSME, necessary funds are sanctioned by the department. Procurement action is taken by the concerned TC/TS, as per GFR and completed before the end of the financial year.

Though TC-Chennai is the smallest centre in terms of area and equipment value, it is vested with the responsibility of providing technical support to four of

the seven Testing Stations, while TS-Mumbai has two TSs under its jurisdiction. The TS-Jaipur falls under technical jurisdiction of TC-Delhi, though during the discussions it was learned that TC-Delhi is not providing any technical support to TS-Jaipur nor is such support sought by the TS. It appears that the administrative and/or technical control of TCs over the TSs is loosely defined, as the TSs are essentially controlled only by their respective controlling officer viz. Director-TC for TSs-Puducherry & Kolhapur, Director-DI for TSs- Jaipur, Bhopal, Bangalore & Hyderabad and Director TI for TS-Ettumanur.

A. Testing Centres

	TC-Delhi	**TC-Kolkata**	**TC-Chennai**	**TC-Mumbai**
Year of commencement of operations	1974	1974	1974	1974-75
Geographical area / region served:	Northern & Central India	Eastern & North-Eastern Region	Southern Region (Tamil Nadu, Kerala, Karnataka, AP, Puducherry)	Western India
Infrastructure available - built-up area	3997 sq.m (Located in the MSME Department Complex at Okhla, New Delhi)	2973 sq.m. (Located in the MSME Department's Complex at Kolkata)	2,000 sq.m. (Located in the MSME Department's Complex at Guindy, Chennai)	2903 sq.m. (Located in the MSME Department's Complex at Sakinaka, Mumbai)
Divisions	Mechanical , Metallurgical, Chemical Electrical	Mechanical, Metallurgical, Chemical Electrical	Mechanical, Metallurgical, Chemical Electrical	Mechanical, Metallurgical, Chemical Electrical
Investment in Calibration / Testing equipment (as on 31 March 2012)	Rs. 331.75 Lakhs	Rs. 388.83 Lakhs	Rs. 295 Lakhs	Rs. 470.34 Lakhs
	Details of Testing and Calibration equipment installed in each Division of the respective TCs are provided in Annexure 2 A.			

	TC-Delhi	TC-Kolkata	TC-Chennai	TC-Mumbai
Testing Stations within the jurisdiction	TS-Jaipur (no direct linkage at present)	Nil	TS Puducherry - Adm & Tech Control TS Bangalore - Technical support only TS Hyderabad - - Technical support only TS Ettumanur ~~–~~(no direct linkage at present)	TS Kolhapur - Adm & Tech Control TS Bhopal - Technical support only

B. Testing Stations

The seven MSME Testing Stations (MSME-TSs) were set up in 1983, almost a decade after the Testing Centres became operational, to improve the outreach of testing facilities for MSMEs located far away from the TCs. TSs Jaipur & Bangalore ~~&~~ are housed in the MSME Development Institutes' building at the respective locations and they are constrained in their operations for want of space, TS-Jaipur having the smallest premises with total area of 186 sq.m. TSs Puducherry, Hyderadad and Kolhapur are located in spacious independent campuses, TS-Puducherry having the maximum built-up area at its disposal (908 sq.m.). TS Ettumanur after re-location from Changanacherry to Ettumanur 5 years back is still trying to establish the laboratory in the workshop building of MSME Training Institute. The building of TS-Bhopal is in a dilapidated state and they have proposed a new building in the same premises for bringing the laboratory environment up to NABL standard.

Five of the TSs have facilities for Physical, Chemical and Products testing while TS-Bangalore provides Electrical Testing services. Similarly TS-Ettumanur only has a Rubber testing laboratory. As mentioned earlier, none of the TSs offer calibration facilities.

The levels of investment in testing equipment are varying across TSs. Interestingly, TS-Puducherry which has the largest premises, has among the lowest investment in equipment.

The Testing Laboratories of the TSs are equipped adequately for testing products and raw materials in the respective fields to serve needs of the local clusters of MSMEs, as per relevant standards. Only TS Kolhapur and TS-Bangalore has Lab Quality system as per ISO/IEC-17025, monitored by NABL. Expenditure for procurement of equipment are met out of Plan provisions. New equipment in TS are proposed and purchased by the Controlling Directors of

the TSs with the approval and sanction of DC-MSME, following the same method as in case of TCs.

Wherever the TSs are under the control of MSME-DIs/TI, they are fully supported by the concerned Institute at the locations.

Type of support provided to Testing Stations within the TC's jurisdiction

TC-Delhi: As per the guidelines issued by DC-MSME in 1985, TS Jaipur should be under the Technical Control of TC-New Delhi. However, during the discussions, it was gathered that there is no linkage whatsoever between TC-Delhi and TS-Jaipur at present.

TC-Chennai Among all the TCs, TC Chennai has the maximum number of TSs under its jurisdiction, namely TS-Puducherry (Administrative & Technical Control), TS–Bangalore, TS-Hyderabad, TS-Ettumanur (Technical Control only)

TC Chennai is providing support to the TSs for obtaining NABL Accreditation such as documentation, internal audit etc. for Testing Station Puducherry, Hyderabad and Bangalore. TC Chennai is also hosting separate sections for the above 3 TSs on their official website.memetc.chennai.in. Since the Rubber Testing Laboratory of TS-Ettumanur is in-active for last 5 years , TC-Chennai is not providing any technical support to that TS at present.

There seems to be no clear demarcation about which authority i.e. whether the Director of TC or the Director of concerned MSME Dev. Institute,would keep a check on the TSs to see whether necessary operative practices are correctly followed and that quality of testing and reporting are maintained at all times.

TC-Mumbai TS-Kolhapur: Administrative &Technical
TS-Bhopal: Technical support

B) Testing Stations

	TS-Bangalore	**TS-Bhopal**	**TS-Hyderabad**	**TS-Jaipur**	**TS-Kolhapur**	**TS-Puducherry**	**TS-Ettumanur**
Year of commencement of operations	1983	1983	1983	1983	1983	1983	1983
Infrastructure available - built-up area	**279 sq.m** (In MSME-DI Bldg)	**808 sq.m** (Building in a poor	**729 sq.m** (Land owned by	**186 sq.m** (In	**821 sq.m**	**908 sq.m** In land owned by	**372 sq.m** in

	TS-Bangalore	TS-Bhopal	TS-Hyderabad	TS-Jaipur	TS-Kolhapur	TS-Puducherry	TS-Ettumanur
		condition)	dept)	MSME-DI Bldg)		dept	MSME-TI Workshop Shed
Divisions	Electrical Testing Lab only	Physical, Products, Chemical	Physical, Products, Chemical	Physical, Products, Chemical	Physical, Products, Chemical	Physical, Products, Chemical,	Rubber testing lab only
Investment in Testing equipment	Rs.68.92 Lakhs	Rs.70.36 Lakhs	Rs.173 Lakhs	Rs.50 Lakhs	Rs.61 Lakhs	Rs.20.47 Lakhs	Rs.11 Lakhs
	Details of Testing equipment installed in the respective TSs are provided in Annexure 2 B						
Affiliated to	DI - Bangalore, TC - Chennai	DI Indore, TC - Mumbai	DI Hyderabad, TC - Chennai	DI Jaipur, TC - New Delhi	TC - Mumbai	TC - Chennai	TI-Ettumanur, TC - Chennai

2.2 NABL and Other Accreditations of TCs and TSs

Accreditation by National Accreditation Board for Testing and Calibration Laboratories (NABL) is one of the most important requirements for any testing and calibration service provider as it not only is a key indicator of the technical competence & service quality, it is also an important marketing requirement.

The international mutual-recognition linkages of NABL enables the accredited laboratories to achieve a form of international recognition, and ensures that test reports accompanying exported goods are readily accepted in overseas markets. This effectively reduces costs for both the exporters and the importers, as it reduces or eliminates the need for products to be re-tested in another country.

NABL enlists the following benefits and advantages of formal recognition of competence of a laboratory by the Accreditation body in accordance with international criteria:

- Potential increase in business due to enhanced customer confidence and satisfaction.
- Savings in terms of time and money due to reduction or elimination of the need for re-testing of products.
- Better control of laboratory operations and feedback to laboratories as to whether they have sound Quality Assurance System and are technically competent.
- Increase of confidence in Testing / Calibration data and personnel performing work.
- Customers can search and identify the laboratories accredited by NABL for their specific requirements from the Directory of Accredited Laboratories.

- Users of accredited laboratories will enjoy greater access for their products, in both domestic and international markets, when tested by accredited laboratories.

General acceptance of NABL accreditation

Obtaining and maintaining NABL Accreditation, in effect means that the Laboratory is invariably following the Laboratory Quality System as per ISO/IEC 17025 for the specific test / calibration.

NABL Accreditation Scheme covers all the testing and calibration activities of laboratories that are serving industry in India. Over the years NABL accreditation has become very popular among the manufacturing, construction and servicing industry as most of their clients now insists on Test/ Calibration Reports covered by NABL Accreditation.

ISO-9000 and other similar quality system certifications require periodic calibration of the instruments in a NABL Accredited Lab.

The BIS guidelines for Product Testing Laboratories seeking BIS Recognition states that “The Laboratory seeking recognition must be NABL accredited for ISO/IS/17025”.

The present scenario is that not only the leading laboratories but any laboratory worth mentioning either in government sector or private, are NABL accredited at least for some of the parameters they are dealing with.

NABL Accreditation of MSME Testing Centres / Testing Stations

Testing Centres

All four MSME-TCs have been NABL accredited for important parameters in both Testing and Calibration for more than last 10 years. They have been progressively expanding the scope of accreditation over the years in both testing and calibration. However, there are still some areas / scopes of testing that TCs carry out outside NABL accreditation as well.

As can be seen from the table below, in several instances the two year validity of NABL certification has already expired or expiring soon. Most of the TCs have informed that necessary steps are being taken for renewal of the same. After a break of more than one year, TC-Mumbai is now expecting re-validation of their accreditation soon. It may be mentioned here that for the purpose of ensuring authenticity, the validity dates have been taken directly from the NABL website. However, it seems that even these are not up to date. For example, as per NABL website the accreditation of TS-Kolhapur expired in 6/10/2010, whereas TS officials produced copy of their revalidation certificate dated 7/11/10 with validity up to 6/11/12.

Status of NABL Accreditation

	Facility	Field	Date of first NABL accreditation	Validity of NABL Accreditation
Testing Centres (TCs)				
Kolkata	Calibration	Electrical / Electro-technical		07/13/2012
		Mechanical	2009	Valid
		Thermal	2009	valid
	Testing	Electrical		4/22/2012
		Mechanical	2010	4/22/2012
		Chemical	2010	4/22/2012
		Non-destructive		4/22/2012
Chennai	Calibration	Electrical / Electro-technical	2001	11/25/2012
		Mechanical	2001	11/25/2012
	Testing	Chemical	2007	4/22/2012
		Mechanical	2007	4/22/2012
New Delhi	Calibration	Mechanical	1997	8/30/2012
	Testing	Mechanical	1996	6/27/2012
		Electrical	1997	6/27/2012
		Chemical	1997	6/27/2012
Mumbai	Calibration	Mechanical	2003	11/6/2011
	Testing	Mechanical	2003	6/3/2011
		Electrical	2003	6/3/2011
Testing Stations				
Kolhapur	Testing	Mechanical	2005	6/11/2012

In addition to the NABL accreditation, most of the TCs have also obtained recognition / accreditation from BIS for product certification as per IS standards. For example, TC-Delhi is recognized by BIS for certification as per 50 BIS standards relating to Mechanical, Electrical and Chemical parameters.

Testing Stations

MSME Testing Stations carry out only testing and no calibration. Among the 7 TSs, only TS-Kolhapur holds NABL Accreditation, obtained in 2005.

TS- Bangalore recently got approval letter from NABL and their formal Accreditation is awaited.

TS- Puducherry had the first assessment visit by the NABL team in March 2012. The TS has to work on the non-conformities communicated to them which also involves addition of some balancing equipments.

TS- Bhopal and TS-Hyderabad have submitted their applications along with Quality Manual documentation to NABL. TS-Bhopal has applied but as the building condition is not good and atmospheric condition of lab could not be maintained, due to which NABL work is held up. Follow up is required on the same. TS-Hyderabad is awaiting surveillance audit by NABL.

Other Testing Stations viz. Jaipur and Ettumanur have not made any progress so far for obtaining NABL accreditation. In fact the customers of TS Jaipur are demanding NABL accreditation for the Lab.

In the competitive environment in which these Testing Stations operate, where the other competing laboratories are duly NABL accredited, the TSs appear to be managing to serve MSMEs and other low-end customers by leveraging their reputation of being a Govt. Laboratory.

Issues involved in NABL Accreditation of TCs / TSs:

- The quality of service of a Testing laboratory is judged by its NABL Accreditation.
- NABL Accreditation shows that the lab has their Lab Quality System as per ISO/IEC-17025 and that the same has been verified by authorized 3rd party.
- If all TSs obtain NABL Accreditation and the TCs expand the scope of their accreditations further, the MSME units and other clients in their jurisdiction will be immensely benefited.
- It helps in better marketing of the services of TCs/TSs and in better utilization of facilities thus improving their own self- sufficiency ratio. Customers generally are ready to pay higher test charges, and ready to travel longer distances from their factories for getting Test Reports under NABL Accreditation.
- It helps in coping with the other competing laboratories , especially those in private ownership who now claim parity with govt. labs in quality of test reports, on the basis of NABL accreditation.
- In the absence of any Technical Audit by higher authorities, It helps the MSME department and concerned controlling officers to keep a check on the quality of Test Reports issued by their field office (TSs) which are often manned by skeletal staff headed by an Assistant. Director.
- The reasons cited by the TSs for the delay in getting NABL Accreditation and sometimes by TCs for temporarily losing their accreditation:
  a) Lack of required man-power or losing the concerned tech. staff.

b) Lack of training in NABL procedures.
c) Inadequacy of equipment or lack of its maintenance and calibration.
d) Inadequacy of space or non co-operation by CPWD in upgrading the space and environment to the required standard.
e) Need for a consultant to help with the initial documentation, system up gradation and initial audits by NABL.
f) Not getting necessary funds in time and lack of financial flexibility.

- The 4 TCs appear to have sufficient experienced technical personnel in ISO/IEC-17025 and NABL accreditation. Some of them are even registered with NABL as Auditors.

  Hence HQ needs to intervene to make their services available to TSs and fix targets in this regard and make it mandatory to report on the status of NABL Accreditation in the Monthly Progress Reports by all centres.

2.3 Performance of the MSME TCs and TSs

Overall, the TCs have reported a shortfall in both parameters for which annual targets have been specified by MoMSME, namely Revenue and No. of Jobs undertaken.

In Revenue terms, the shortfall has been consistently around 11% of target in the last three years till 2010-11 (no target specified for 2011-12). Individually, TC-Kolkata and TC-Mumbai have reported better performance than the other TCs, with diminishing shortfall and even exceeding the targets in some of the years. On the other hand TC-Chennai and TC-Delhi have reported increasing shortfalls. For example, TC-Delhi had a revenue shortfall of 3.5% in 2007-08, which has progressively increased to 22.3% shortfall in 2010-11. TC-Chennai has however showed recovery since 2010-11 and exceeded the target of SS Ratio by 20%.

On the other hand, the Testing Stations collectively had much higher shortfalls vis a vis Revenue targets but have turned the corner in 2010-11, exceeding the target by 9.5%.

To put this is a perspective, fixing of revenue targets by DC-MSME is done not based on any laid down method, but varied from period to period. It is mainly based on a percentage increase over previous year's target. Later, it was revised to a percentage increase over previous year's actual revenue, with certain allowance for the situation in individual centres.

Since 2011-12 the Revenue Targets have been discontinued, and targets are now given in terms of Self Sufficiency Ratio and No. of Jobs.

Performance of Testing Centres

Year	**Revenue** (in Rs. Lakhs)	**No. of Jobs**	**Expendit**	**Self**

	Target	Achieved	Shortfall (%)	Target	Achieved	Shortfall (%)	ure (in Rs. Lakhs)	Sufficiency Ratio
2007-08	355	326.03	-8.2%	13900	12309	-11.4%	430.4	75.75%
2008-09	392	348.11	-11.2%	15300	13539	-11.5%	568.32	61.25%
2009-10	437	387.96	-11.2%	17300	14497	-16.2%	672.82	57.66%
2010-11	438	389.77	-11.0%	16000	13981	-12.6%	701.76	55.54%
2011-12		425.63	N.A.	15300	19759	29.1%	739.89	57.53%

Performance of Testing Stations

Year	Revenue (in Rs. Lakhs)			No. of Jobs			Expendi t-ure (in Rs. Lakhs)	Self Sufficie -ncy Ratio
	Targe t	Achieve d	Shortf all (%)	Targe t	Achieve d	Shortfa ll (%)		
2007 -08	142	106.8	-24.8%	25250	22815	-9.6%	125.46	85.13%
2008 -09	159.3	122.91	-22.8%	28240	23285	-17.5%	165.73	74.16%
2009 -10	182	137.04	-24.7%	31400	26633	-15.2%	208.96	65.58%
2010 -11	160	175.12	9.5%	25200	26488	5.1%	229.1	76.44%
2011 -12		212.94	N.A.	29560	26964	-8.8%	188.37	113.04 %

The TCs have been collectively able to exceed the target for no. of jobs undertaken in 2011-12 by 29.1%, though in the preceding years there was a shortfall on this as well. TC-Kolkata has been the standout performer, with actual no. of jobs undertaken exceeding the targets in three of the last five years (2008-09, 2009-10 and 2011-12). TC-Mumbai and TC-Delhi have lagged behind on this parameter as well, even in 2011-12.

The performance of Testing Stations has been fluctuating from year to year in achieving the target for no. of jobs undertaken. Except for 2010-11, when the TSs were able to exceed the target, in all other years there has been a shortfall, without any uniform pattern.

It may be mentioned here that the performance vis a vis targets for no. of jobs may be misleading because the size of the jobs varies widely across the centres. While one type of job may take 2 hrs to complete and bring only Rs. 300 as revenue another job may take a month of testing and may bring in Rs.30,000. Therefore number of jobs undertaken by a centre as compared to another centre is not necessarily an indicator of better performance.

The Self-Sufficiency concept was brought-in for both TCs and TSs sometime during the mid-life of TCs, with the aim of achieving over all Self- sufficiency of 100%.

However, the performance on Self Sufficiency Ratio, an indicator of cost effectiveness of the TCs, has actually declined from 75.75% in 2007-08 to 57.53% in 2011-12. The fact that the increase in revenue is lower than increase in expenditure clearly indicates that the TCs have not yet achieved self-sustainable level of operations. The increase in salaries and arrears during 2008-09 and 2009-10 appear to be the main reason for the decline in SS ratio. While this highlights the need for continued financial support during the 12th

Plan period, it also raises the question whether adequate efforts are being put in for market development and rationalization of man-power for becoming competitive vis a vis other service providers.

Another interesting finding of our analysis is that TC-Mumbai and TC-Delhi have achieved comparatively higher Self Sufficiency levels than TC-Kolkata and TC-Chennai, which have turned in better performance in meeting the targets for revenue and no. of jobs undertaken. However, even though TC-Delhi has achieved SS Ratio higher than other TCs, its performance has dipped from SS ratio of 129% in 2007-08 to 63.2% in 2011-12, before recovering to 73% in 2011-12.

The Testing Stations have consistently performed better than the TCs on the Self Sufficiency parameter, even exceeding the overall objective of 100% in 2011-12. The ratio of total revenues of all TSs to the total expenditure, in 2011-12 is 113%.

It is understood that the Self Sufficiency levels of other Government agencies, such as ERTL (Ministry of Communication & IT) and NTH (STQC Dept) are less than those of MSME-TCs in general. However, the Private Labs are in general working to full capacity and running profitably, due to prudent balancing of available resources like equipment, manpower, space, finance etc. Flexibility and simplification of decision making process is another factor that helps these private laboratories to perform better.

For the current financial year the formula adopted by the office of DC.MSME is to expect a 10% increase in Recurring Expenditure of TCs and TSs while maintaining the SS Ratio target at the same level as previous year. This translates to anticipating revenue growth of about 10%, which is quite feasible considering the trend in 2011-12.

It is seen that 90% of the recurring expenses go towards salaries. The officers-in-charge have no control over staff strength and staff postings, which are done by Delhi HQ and local DI on administrative considerations. The cadre controlling authorities of senior as well as junior staff levels need to pay due attention to the impact of transfer and postings on the performance of TC/TS, and need for continuity of expertise in a particular lab etc.

Based on the above, it appears that only the growth of revenue, of course in combination with sound Lab Quality system, is the prime indicator of performance and financial health of the Centres.

2.4 TCs Division-wise Performance during last five years

The Division wise performance at various TCs does not follow any uniform pattern with fluctuations in almost each year. However, Electrical Division emerges as the main revenue earning division in all TCs.

Further, Calibration activity has a sizeable contribution to revenue only at TC-Kolkata (data for TC-Delhi not available).

The details for respective TCs are provided in the following sections:

TC-Delhi

The performance of TC-Delhi shows a declining trend both in terms of no. of jobs undertaken as well as revenue, up to 2010-11, before registering a slight recovery in 2011-12. However, even in 2011-12, the performance is below the 2007-08 level. The Electrical Division accounts for about one-third of the TC's revenue, though only about one-fifth of the no. of jobs undertaken. The Chemical and Mechanical divisions have the highest share in the number of jobs undertaken. This implies that Electrical division not only contributes maximum share of the revenue, but also generates highest revenue per job undertaken.

Division-wise Performance of TC-Delhi

Division	Year	No. of jobs completed			Revenue earned (Rs. Lakhs)		
		Testing	Calibration	Total	Testing	Calibration	Total
Chemical	2007-08	Break-up not available		1151	Break-up not available		42.62
	2008-09			1708			50.62
	2009-10			1639			42.33
	2010-11			1078			31.98
	2011-12			1595			38.80
Mechanical	2007-08			1544			31.45
	2008-09			1777			26.79
	2009-10			1625			28.21
	2010-11			1414			28.83
	2011-12			1246			26.80
Metallurgical	2007-08			1140			37.01
	2008-09			1498			29.01
	2009-10			1608			39.40
	2010-11			1013			28.67
	2011-12			819			24.61
Electrical	2007-08			1155			61.10
	2008-09			1127			65.79
	2009-10			977			55.29
	2010-11			667			51.86
	2011-12			951			56.03
Total	2007-08			**4990**			**172.18**
	2008-09			**6110**			**172.21**
	2009-10			**5849**			**165.2**

Division	Year	No. of jobs completed			Revenue earned (Rs. Lakhs)		
		Testing	Calibration	Total	Testing	Calibration	Total
							3
	2010-11			**4172**			**141.34**
	2011-12			**4611**			**146.24**

TC-Kolkata

TC-Kolkata has managed to achieve a consistent growth in revenue as well as no. of jobs undertaken during the last five years, though the rate of growth in revenue declined from 18% in 2008-09 to a modest 6% in 2011-12.

Also, there has been a huge two-fold increase (182%) in the number of jobs undertaken in 2011-12 while the increase in revenue in the same year is only 6%. This observation again highlights the wide disparity in the types of jobs received and that there is no direct correlation between the no. of jobs and the revenue.

The Electrical Division in Kolkata TC accounts for nearly half of the total revenue generated, in the past five years. Given that the Electrical Division's share in no. of jobs has decreased from 60% in 2007-07 to 27% in 2011-12 while maintaining the revenue share at around 50%, it indicates an increase of higher value jobs coming to the division.

Division-wise Performance of TC-Kolkata

Division	Year	No. of jobs completed			Revenue earned (Rs. Lakhs)		
		Testing	Calibration	Total	Testing	Calibration	Total
Chemical	2007-08	317	11	328	11.35	0.2	11.55
	2008-09	467	12	479	11.57	0.3	11.87
	2009-10	468	13	481	9.86	0.32	10.18
	2010-11	567	10	577	16.85	0.21	17.06
	2011-12	773	7	780	15.7	0.18	15.88
Mechanical	2007-08	92	169	261	2.72	3.04	5.76
	2008-09	147	256	403	3.79	4.89	8.68
	2009-10	381	161	542	4.8	3.88	8.68
	2010-11	319	655	974	6.11	4.36	10.47
	2011-12	611	4916	5527	4.89	7.06	11.95
Metallurgical	2007-08	236	21	257	7.03	2.3	9.33
	2008-09	274	28	302	9.88	2.7	12.58
	2009-10	262	27	289	9.27	2.58	11.85
	2010-11	324	36	360	12.61	2.9	15.51
	2011-12	702	75	777	13.42	2.96	16.38
Electrical	2007-08	456	825	1281	21.18	8.24	29.42
	2008-09	576	1541	2117	21.69	11.13	32.82
	2009-10	643	766	1409	32.25	10.69	42.94
	2010-11	608	939	1547	26.53	9.9	36.43
	2011-12	784	1877	2661	24.34	15.72	40.06
Total	2007-08	**1101**	**1026**	**2127**	**42.28**	**13.78**	**56.06**
	2008-09	**1464**	**1837**	**3301**	**46.93**	**19.02**	**65.95**
	2009-10	**1754**	**967**	**2721**	**56.18**	**17.47**	**73.65**
	2010-11	**1818**	**1640**	**3458**	**62.1**	**17.37**	**79.47**
	2011-12	**2870**	**6875**	**9745**	**58.35**	**25.92**	**84.27**

TC-Chennai

TC-Chennai has had a rather stagnant performance up to 2010-11, with no appreciable growth in no. of jobs or revenue with the exception of year 2009-10 when there was revenue growth of 19.5% without a corresponding growth in number of jobs. However, in 2011-12 the centre achieved 95% increase in revenue over previous year, mainly due to almost 800% increase in revenue generated by Electrical Division in that year compared to the previous year.

Notwithstanding the performance of Electrical Division in 2011-12, the Metallurgical Division has been the mainstay of TC-Chennai contributing around 60% of the total revenue in almost each of the last five years.

Division-wise Performance of TC-Chennai

Division	Year	No. of jobs completed			Revenue earned (Rs. Lakhs)		
		Testing	Calibration	Total	Testing	Calibration	Total
Chemical	2007-08	783	0	783	5.69	0	5.69
	2008-09	549	0	549	7.03	0	7.03
	2009-10	760	0	760	5.58	0	5.58
	2010-11	825	0	825	8.97	0	8.79
	2011-12	830	0	830	13.27	0	13.27
Mechanical	2007-08	0	643	643	0	5.88	5.88
	2008-09	0	689	689	0	5.79	5.79
	2009-10	0	639	639	0	5.45	5.45
	2010-11	0	690	690	0	4.96	4.96
	2011-12	0	750	750	0	5.4	5.4
Metallurgical	2007-08	1508	0	1508	25.31	0	25.31
	2008-09	1453	0	1453	25.71	0	25.71
	2009-10	1271	0	1271	33.27	0	33.27
	2010-11	1472	0	1472	29.13	0	29.13
	2011-12	1500	0	1500	34	0	34
Electrical	2007-08	0	304	304	0	3.27	3.27
	2008-09	42	198	240	0.8	2.29	3.09
	2009-10	130	248	378	2.15	3.1	5.25
	2010-11	155	314	469	2.2	3.09	5.29
	2011-12	**833**	**300**	**1133**	**35**	6	41
Total	2007-08	**2291**	**947**	**3238**	**31**	**9.15**	**40.15**
	2008-09	**2044**	**887**	**2931**	**33.54**	**8.08**	**41.62**
	2009-10	**2161**	**887**	**3048**	**41**	**8.55**	**49.55**
	2010-11	**2452**	**1004**	**3456**	**40.3**	**8.05**	**48.17**
	2011-12	**3163**	**1050**	**4213**	**82.27**	**11.4**	**93.67**

TC-Mumbai

After impressive revenue growth in 2008-09 and 2009-10, the performance of TC-Mumbai has stagnated in the last two years in revenue terms, while there has been a dip in the no. of jobs undertaken during this period.

Electrical Division accounts for bulk of the revenue with a share of 40-50% in different years, followed by Chemical Division with revenue share increasing from about 20% in 2007-08 to almost 40% in 2011-12.

The calibration activity at the Mumbai TC is miniscule, limited to a few jobs undertaken by the Mechanical Division.

Division-wise Performance of TC-Mumbai

Division	Year	No. of jobs completed			Revenue earned (Rs. Lakhs)		
		Testing	Calibration	Total	Testing	Calibration	Total
Chemical	2007-08	333	0	333	9.38	0	9.38
	2008-09	344	0	344	14.77	0	14.77
	2009-10	369	0	369	14.18	0	14.18
	2010-11	643	0	643	28.17	0	28.17
	2011-12	707	0	707	37.08	0	37.08
Mechanical	2007-08	210	5	215	6.7	0.05	6.75
	2008-09	173	4	177	4.94	0.03	4.97
	2009-10	260	2	262	8.78	0.01	8.79
	2010-11	202	4	206	10.58	0.02	10.6
	2011-12	155	3	158	6.55	0.01	6.56
Metallurgical	2007-08	533	0	533	6.25	0	6.25
	2008-09	695	0	695	9.98	0	9.98
	2009-10	683	0	683	20.61	0	20.61
	2010-11	505	0	505	18.38	0	18.38
	2011-12	291	0	291	9.92	0	9.92
Electrical	2007-08	411	0	411	28.1	0	28.1
	2008-09	512	0	512	53.41	0	53.41
	2009-10	620	0	620	53.2	0	53.2
	2010-11	386	0	386	34.81	0	34.81
	2011-12	462	0	462	42.16	0	42.16
Total	2007-08	**1487**	**5**	**1492**	**50.43**	**0.05**	**50.48**
	2008-09	**1724**	**4**	**1728**	**83.1**	**0.02**	**83.13**
	2009-10	**1932**	**2**	**1934**	**96.77**	**0.01**	**96.78**
	2010-11	**1736**	**4**	**1740**	**91.94**	**0.02**	**91.96**
	2011-12	**1615**	**3**	**1618**	**95.71**	**0.01**	**95.72**

2.5 No. of MSEs served

Since the TCs and TSs were set up primarily to serve the testing and calibration needs of the micro and small enterprises, the composition of the client profile of each TC and TS is an important consideration to assess the extent to which this objective has been met.

Customer Profile of TCs and TSs

	2007-08			2008-09			2009-10			2010-11			2011-12		
	MSEs	Others	% of MSEs in total	MSEs	Others	% of MSEs in total	MSEs	Others	% of MSEs in total	MSEs	Others	% of MSEs in total	MSEs	Others	% of MSEs in total
Testing Centres															
TC New Delhi	1208	3226	27%	1354	3256	29%	745	3322	18%	748	2648	22%	760	3438	18%
TC Mumbai	72	142	34%	182	297	38%	225	292	44%	215	289	43%	155	207	43%
TC Kolkata	521	464	53%	622	321	66%	587	271	68%	695	321	68%	783	439	64%
TC Chennai	427	583	42%	476	629	43%	362	831	30%	361	839	30%	628	824	43%
Testing Stations															
TS Bangalore	80	7	92%	23	10	70%	25	5	83%	16	7	70%	23	6	79%
TS Bhopal	313	157	67%	391	118	77%	361	123	75%	303	184	62%	390	113	78%
TS Hyderabad	649	211	75%	1241	180	87%	2157	108	95%	677	70	91%	616	34	95%
TS Jaipur	1785	1932	48%	2476	193	93%	625	2343	21%	3156	814	79%	3916	699	85%
TS Kolhapur	1028	278	79%	1426	206	87%	1342	251	84%	1316	141	90%	1225	117	91%
TS	687	304	69%	543	252	68%	854	330	72%	1426	916	61%	1730	441	80%

Puducherry															
TS Ettumanur	nil	nil	-	nil	nil	-	nil	nil	-	nil	nil	-	nil	nil	-
Total	**6770**	7304	48%	**8734**	5462	62%	**7283**	7876	48%	**8913**	6229	59%	**10226**	6318	62%

Note: MSE - Micro & Small Enterprises

As brought out in the above table, micro and small enterprises constitute about 60% of the total number of customers served by all TCs and TSs, increasing from about 48% in 2007-08. .

All TCs and TSs offer a concession of 25% on the normal tariff to MSE customers. Besides, the technical staff of MSEs are provided in-the-Lab training at TCs /TSs on payment of nominal fees.

Though data on the contribution of BIS, Central & State PWDs, Defence, RDSO etc. is not available, it became clear during discussions that such governmental clients contribute more than 50% of the overall revenues of TCs. In case there is clear evidence to the TCs and TSs that samples brought by such Govt. agencies have come from a MSME manufacturing unit, then that is reflected as indirect assistance to MSMEs.

The Testing Stations have a higher proportion of MSE customers (ranging between 78% for TS-Bhopal to 95% for TS-Hyderabad in 2011-12) as compared to TCs (ranging from only 18% for TC-Delhi to 64% for TC-Kolkata in 2011-12). Notwithstanding the mandate, this is understandable, to some extent, because the TCs are also required to maintain and increase the Self Sufficiency Ratio, for which they need to balance the MSE portfolio with other larger customers with higher paying capacity.

Since the TS-Ettumanur was in the process of shifting from Changanacherry to Ettumannur, no testing jobs were taken up during the last five years.

2.6 Calibration and Testing Charges

Policy on Calibration / Testing Charges

Office of DC(MSME) has left it to the discretion of the Directors of TCs and Controlling Officers of TSs to review their respective testing / calibration charges periodically and to raise, keep at the same level or lower the same per the local situation in terms of demand, competition etc. As and when the charges are increased, DC office can be kept informed, whereas if the charges are being lowered charges, permission of DC office is required to be taken in advance.

Dept of MSME does not follow a system of uniform charges throughout India, as being done by ERTL and NTH laboratories.

Industrial testing and calibration charges in India vary from region to region. This can be seen reflected in the Charges being levied by TCs & TSs as well. Annexure 3 shows the testing / calibration charges levied by different TCs/TSs for a few selected tests and calibrations. Historically the charges of TC-Delhi used to be the highest and that of TC Kolkata the lowest. But the present tariff rate shows that on an average the testing/ calibration charges of all the TCs are more or less at the same level.

Factors involved in review of Testing Charges:

Factors being considered in fixing / reviewing the charges are:

- Cost of Testing, which includes the cost of equipment and consumables
- Duration of test, e.g. a Salt Spray Test runs for 96 hours, or type/endurance testing takes up to 1 month etc.
- Level of demand for the tests: like some tests are done rarely where as other tests are being done very frequently with bulk samples.
- Cost of maintaining NABL Accreditation.
- Charges levied by other testing agencies in the area for similar tests.

Broadly, all internal costs are added and then rates are fixed after taking into account the charges of the competitors, so that the interest of the customer in that particular service is maintained and the facility is optimally utilized keeping in mind the Self Sufficiency Ratio of the TC/TS.

Each test is reviewed individually and there is no practice of raising all the testing charges uniformly or at the same time. Many times, even if it is found that a particular charge is marginally high, instead of lowering, it is still retained at the same level, and after some time it becomes competitive as the costs rise.

Average Revenue per job

As can be seen from the table below, there is significant variation across TCs in their average charges per job, because of the wide range of test/calibration jobs undertaken. The average revenue generated for testing jobs varies from Rs. 2,033 (Kolkata) to Rs. 5,926 (Mumbai). For calibration jobs, the revenue varies from Rs. 333 (Mumbai) to Rs. 1,086 (Chennai). No meaningful inferences can be drawn from this analysis due to the wide variation in the types of jobs undertaken, as well as the difference in scale of operations (no. of jobs undertaken) of each TC.

Division	Year	Average Revenue per job (Rs.)		
		Testing	Calibration	Overall
Chemical	TC-Delhi	N.A.	N.A.	2,433
	TC-Kolkata	2,031	2,571	2,036
	TC-Chennai	1,599	-	1,599
	TC-Mumbai	5,245	-	5,245
Mechanical	TC-Delhi	N.A.	N.A.	2,151
	TC-Kolkata	800	144	216
	TC-Chennai	-	720	720
	TC-Mumbai	4,226	333	4,152
Metallurgical	TC-Delhi	-	-	3,005
	TC-Kolkata	1,912	3,947	2,108
	TC-Chennai	2,267	-	2,267
	TC-Mumbai	3,409	-	3,409

Electrical	TC-Delhi	N.A.	N.A.	5,892
	TC-Kolkata	3,105	838	1,505
	TC-Chennai	4,202	2,000	3,619
	TC-Mumbai	9,126	-	9,126
Total	TC-Delhi	N.A.	N.A.	3,172
	TC-Kolkata	2,033	377	865
	TC-Chennai	2,601	1,086	2,223
	TC-Mumbai	5,926	333	5,916

Therefore, it is more meaningful to compare the charges across TCs for 'similar' or 'comparable' test jobs undertaken. Accordingly, a comparison of charges for selected testing jobs across the TCs as well as the principal competitor, namely National Test House (NTH) is provided below.

Comparison with other testing agencies

Based on discussions with respective TCs, competitive testing agencies (Government as well as private) as well as MSME units, it is observed that the charges of TCs and TSs are in general at the median level when compared to other agencies in the same area, as summarized in the table below. The charges of other Central Govt. Laboratories like ERTL, ETDC, CPRI etc. are higher than those of TCs/ TSs. These laboratories have costlier equipments, dedicated scientific cadre, international affiliations and self sufficiency does not appear to be a major concern. Same is the case with some of the leading and reputed private laboratories. The Charges of NTH are somewhat comparable with that of TCs/ TSs, but they offer only 10% concession to MSEs against 25% offered by the TCs/TSs.

TCs' perception of their Charges vis-à-vis competition

TC-Delhi	The TC has responded that it is "not known" to them, how their charges compare with the competition. However, in the assessment of consultants the charges of TC New Delhi are in the higher bracket among testing laboratories in and around New Delhi as well as among 4 MSME-TCs.
TC-Kolkata	No significant revision in charges for Testing/Calibration has been carried out in the last 5 years. The number of jobs from MSME & Non-MSME customers are increasing indicating competitiveness of the testing Charges of TC vis a vis other similar labs having NABL and BIS accreditations.
TC-Chennai	Testing Charges are comparable compared with other Laboratories in southern region. Calibration charges are levied in accordance with the current market conditions and accuracy levels.
TC-Mumbai	Test charges are very competitive & MSE friendly. 20% concession given to Micro & Small units

One point noticed is that while all TCs and TSs are giving a concession of 25% to MSEs over the general tariff, TC Mumbai is offering only 20% concession.

Almost all the existing customers of the TCs and TSs feel that the charges for testing / calibration are reasonable.

However, the key issue here is that the MSME TCs and TSs do not have the operational flexibility and autonomy, as enjoyed by their private sector competitors, which sometimes places them in a disadvantageous position.

Charges of smaller private labs are the lowest in any area. Lower overheads, lower salaries, flexibility in operations enable them to do this.

The table below shows a comparison between charges levied by the four MSME-TCs and NTH laboratories which is the principal competitor at most of the locations. It may be emphasized here that this is only a broad comparison, as there may be variations in scope of similar/ comparable tests depending upon the needs of the customers.

Comparison of Testing Charges of MSME-Testing Centres and NTH (principal competitor)

Tests / Calibration	MSME-Testing Centres (Rs.)				Competition
	TC Delhi	TC Kolkata	TC Chennai	TC Mumbai	NTH
CHEMICAL TESTS					
Detergent-household	2000		1250		3500
Cement-Chemical Analysis	3000	2500	5000		3500
Concrete-Compressive Strength	800				
Coating Thickness-Metallic	600	750	625		
Alloy steel	500 / element	Wet:500/ element	OES: 600 All elements Wet :350 / element		
Paint complete as per IS:101	30000	5000	3750		5000
Salt spray 96 hrs	800	1200	6880		
ELECTRICAL TESTS					

Tests / Calibration	MSME-Testing Centres (Rs.)				Competition
	TC Delhi	TC Kolkata	TC Chennai	TC Mumbai	NTH
Household Electrical Appliances	7000	6125	5500	6000	24000
CFL Lamps		Min 18750			45000
Plug & socket	5000	3750	4000	4000	7000
Cable domestic-single core	7000	3750	5000	5000	15000
GLS Lamp		Min 5525			20000
All Fans - type test	9000	9000		6000	10000
Switch- domestic	6000	6125	4000	5000	6000
MECHANICAL TESTS					
LPG Stove	3400				
Pressure cooker	11450			4000	17000
S. Steel sink	3000				
Toys-mechanical tests	6250				
Hydraulic Pressure test		438	1000	1250	
Steel doors		1250	13000		
METALLURGICAL TESTS					
Tensile Test on Metals	490	450	400	1000	
Hardness test-HRA/B/C	230	450	300	625	
Impact Test	450	750	250		
Metallography-Micro Examination	600	950	500		
Compression test	750	450	325	1250	
MECHANICAL CALIBRATION					
Micrometer	1300	875	650	500	800
Vernier	1300	875	650	400	800
Pressure gauge	500	625	750		
Spirit Level	900		3000		
Plug gauge-plain	400				
Dial Indicator		750	650		1700
Torque wrench		2750	500	400	1500
ELECTRICAL CALIBRATION					
AC Current		Min 750	500		700
AC/DC Voltage		625	500		700
Megger		Min 750	800		700

Tests / Calibration	MSME-Testing Centres (Rs.)				Competition
	TC Delhi	TC Kolkata	TC Chennai	TC Mumbai	NTH
Temperature Indicator		750	400		1500
Tachometer		1500			
Watt meter		Min 1000	800		1000

Legend	Highest		Lowest	

Urgent Job charges

The TCs and TSs are following a system of booking Urgent Jobs. If any customers require test reports urgently without waiting in the queue, they are given the option of priority service at 100% extra cost, i.e. double the normal charges.

Bulk Discount:

The Dept. also permits the Directors of TCs/ TSs to lay down and practice a policy of bulk discounts on testing charges with prior permission of DC.

Testing Charges paid by BIS

BIS has its own system of fixing rates of testing charges for its recognized testing laboratories, based on an estimate of costs involved in testing of each product to relevant ISS and the same is published. It is up to the lab to accept these rates or negotiate for higher rates. Once a rate is mutually agreed, it remains valid for one year.

All the TCs and several TSs have BIS Recognition and it is estimated that on an average 25% to 35% of the testing revenue is from testing of BIS samples.

On an average, the BIS rates are at par with the existing rates of TCs, or the TCs eventually adjust their rates to the level of BIS rates which are scientifically arrived at.

2.7 Average Waiting time after a Testing/Calibration job is booked

In most cases the testing requirements are specified by the customers of the MSMEs, and therefore the time taken by the testing agency is often a very important consideration for them in selecting the agency. Even for internal monitoring of quality of raw materials and finished goods, time taken to get the test report is of critical importance to manufacturing units.

The overall feedback of the MSMEs/industry associations is that the time taken by MSME TCs and TSs in normal course, is usually longer than the private sector laboratories. They feel that more time taken by TC/TS as well as other Govt. laboratories is not all due to duration of test or because of systematically

following testing procedure, but due to human and systemic factors typical of Govt. organizations. Hence they appeal at every forum for faster delivery of test reports.

Many times the test report is not given on the date agreed at the time of booking the job, due to reasons that are said to be unexpected. There can even be repetitive delays which puts the customers' schedule out of gear.

TCs and TSs are following the principle of "first come, first served" while booking jobs and in delivery of test reports. Even the urgent jobs which are charged at double the rate should form their own queue if there is rush of such jobs. But NABL audit or ISO/IEC-17025 does not cover the time aspect. Hence the department will do well to put in place necessary guidelines and checks regarding the average delivery period of TCs and TSs i.e. the time taken from booking of job to delivery of test report, and strict observance of the queue principle.

As per feedback of TCs and TSs, the time taken for majority of the jobs is around 10 to 15 days.

TC-Delhi: 3-5 days. Probable Date of Completion (PDC) could be 10 to 15 days depending on the nature of tests

TC-Kolkata PDC is generally 15 working days
For Urgent Jobs (on double rate basis) - 5 working days
However, it depends on the no. of samples waiting and the test duration as per the governing specification.

TC-Chennai 1 week to 1 month depending upon nature of test and workload at each work-station

TC-Mumbai Not indicated, but the average PDC is reported to be around 15 days

TS-Kolhapur	3 to 6 days
TS-Bangalore	5 days
TS-Bhopal	Not indicated
TS-Hyderabad	1 day
TS-Puducherry	Metallurgy – 1 week; Chemical - 9 days
TS-Jaipur	Mechanical - 4 to 7 days; Chemical - 4 to 9 days; Cement & Aggregates - 8 to 34 Days; Water & Paper - 3 to 5 Days
TS-Ettumanur	N.A. as no operations in last five years

Some of the users MSMEs have stated that the time taken even for simple routine tests like Tensile Strength is too much compared to private agencies.

2.8 Training & Consultancy Activity

The mandate of TCs also includes provision of Training and Consultancy for MSMEs in their jurisdiction. However, while none of the TCs have reported any consultancy jobs undertaken in the past 5 years, even the Training activity has been at a relatively low key (as can be seen from the table below), and forms an insignificant part of the revenue generated at each TC. This is mainly because of lack of dedicated resources for this activity, and therefore the TC management is not in a position to place emphasis on promoting the same. It is also pertinent to note that none of the other Government as well as private testing/calibration agencies are offering training as a service to their clients.

In light of this, DC-MSME may like to reconsider whether it is necessary to retain Training and Consultancy as part of the TCs' mandate, given the fact that in each region there are specialized Govt. (and private) training agencies already operational. Alternatively we have also given a suggestion elsewhere to revive the training and consultancy activity by creating Consultancy cum Training Cells in TCs with dedicated staff. Industry associations and MSEs are in favour of strengthening the training activity.

TC-Mumbai had been conducting Radiography Level-II Training programme jointly with BARC for many years till 2008-09. This was a well appreciated programme, useful to MSMEs, employment generating and brought in good revenue thus improving the self sufficiency. This has now come to an end because of the in-flexibility of financial rules, even while other TCs were in discussion with BARC to commence similar programmes.

Training Activity at Testing Centres

	Name / Description of Training Programme	Year	No. of programmes conducted	No. of Persons Trained	Revenue from Training activity (Rs.)	% of total Revenue
TC-Delhi	4 months' Training Course in Chemical, Mech, Met, & Elec Testing	2007-08	2	22	46,486	
		2008-09	1	10	55,150	
		2009-10	2	12	66,180	
		2010-11	2	13	57,910	
		2011-12	2	18	82,728	
TC-Kolkata	Training on Testing & Calibration done for all four divisions.(4 weeks)	2007-08	3	28	1800	
		2008-09	7	97	41,500	
		2009-10	3	20	30,000	
		2010-11	2	33	29,000	
		2011-12	2	74	69,500	
TC-Chennai	General Laboratory Training	2007-08	6	162	5100	
		2008-09	4	26	-	
		2009-10	5	35	-	
		2010-11	2	7	25000	
		2011-12	4	17	71500	
TC-Mumbai	Radiaography Level 2 training programme in association with BARC, Mumbai	2007-08	3	90	10,50,500	
		2008-09	3	90	754,000	
		2009-10	-	-	30,000	
		2010-11	-	-	-	
		2011-12	-	-	-	

None of the TCs have drawn up concrete plans to upscale the Training activity, and it is expected to continue only as an incremental source of revenue. Regular training activity requires a training division with separate staff which is

not available. Non-flexible financial rules and non-availability of training funds are also cited as impediments to conducting training courses on a larger scale.

The suggestion from the Directors of TCs is that they be given the permission to operate Director's Personal Deposit Account like ten DIs already have, so that the Training activity at the TCs can be given an impetus.

Training Activity at Testing Stations

Five out of the seven TSs have been taking up training programmes intermittently as shown in the table below. TS Hyderabad and TS Kolhapur have not done any training programmes during the last 5 years, though TS-Hyderabad has shared regarding their plan to conduct 3 training programmes in a year on "Material testing and certification". Other TSs have no plans for conducting regular training courses.

	Name / Description of Training Programme	Year	No. of programmes conducted	No. of Persons Trained	Revenue from Training activity (Rs.)
TS Bangalore	Cable Testing (for MSMEs)	2007-08			
		2008-09	1	6	12250
		2009-10			
		2010-11			
		2011-12	1	1	2000
TS Bhopal	-	2007-08	-	-	-
	-	2008-09	-	-	-
	-	2009-10	-	-	-
	Mechanical Testing	2010-11	1	2	3000
	Chemical Testing		1	6	1688
	-	2011-12			
TS Jaipur	-	2007-08			
	-	2008-09			
	Training in steel testing for the Rolling mills & induction furnace cluster	2009-10	1	12	-
	Training on testing of materials	2010-11	1	20	5200
	-	2011-12			
TS Puducherry	ESDP	2007-08	1	20	1200
	Chemical parameters	2008-09	1	3	4500

	Name / Description of Training Programme	Year	No. of programmes conducted	No. of Persons Trained	Revenue from Training activity (Rs.)
	soap & Detergent				
	-	2009-10			
	-	2010-11			
	-	2011-12			
TS Ettumanur	Short term training	2007-08	-	200	1,58,000
		2008-09			
		2009-10			
		2010-11			
		2011-12	-	43	43,000/-
TS Hyderabad		2007-08 to 2011-12	nil	nil	nil
TS Kolhapur		2007-08 to 2011-12	nil	nil	nil

Suggested Steps to improve Training and Consultancy activity

It became clear during discussions that with the limited man-power at the disposal of TCs, Training and Consultancy activities clashes with the main testing activity. Hence Directors of TCs could be provided with sufficient resources to form a Training & Consultancy Division at TCs. It has to be headed by a Dy Dir or AD Gr.I, supported by a Technical and Office assistant each. Till the time its mandated services pick-up momentum, the Division can also contribute for market analysis, market development etc. Looking from the view point of MSMEs, there is always the need for Training Facilities related to Quality System, Testing, Calibration etc. especially with more and more Units opting for in-house testing facilities.

2.9 Modernization & Technical Up-gradation

The table below summarizes the technical upgradation and modernization implemented by each of the TCs and TSs in the last five years. As mentioned in the earlier sections, each TC and TS submits its proposals to the DC-MSME for allocation and sanction of funds for induction of new equipment during the financial year, pertaining to replacement of obsolete equipment, procurement of additional equipment to augment capacity, procurement of new equipment for addition of new testing/calibration facilities based on demand assessment etc.

During the discussions with TCs and TSs as well as with DC-MSME, an effort has been also made to compile the details of modernization and technology upgradation plans for next five years.

Modernization & Technical Up-gradation

	Division	2007-08	2008-09	2009-10	2010-11	2011-12	Next 5 years (proposed)
TC-Delhi	Chemical				Migration of toxic elements: BIS Accreditation		Testing for fire-fighting equipment.
	Mechanical				Testing facility for pressure cooker, LPG Gas Stove, LPG water heater, Hinges, Taps : BIS Accreditation		Testing for Helmet. Horizontal Tensile testing machine.
	Metallurgical			Accessories for Tensile Testing M/c	Reverse Bend Test facility		
	Electrical					Critical Oxygen Index test eqpt, Halogen test eqpt, Air bomb & Oxygen bomb test eqpt,, water absorption eqpt and testing facility for CFL	Testing facility for compact fluorescent lamp (CFL); High voltage testing

	Division	2007-08	2008-09	2009-10	2010-11	2011-12	Next 5 years (proposed)
TC-Kolkata	Chemical	Heating Circulator Bath Standard Platinum Resistance Thermometer (S.P.R.T.) Electroanalyser Reading Telescope Digital Vernier Digital Micrometer	Gloss Meter for Paint Testing Impact Tester for Paint Testing Bursting Strength for Paper & Paper Products Ph & Conductivity meter Pressure Test apparatus for Paint Testing Bend Test Apparatus for Paint Testing Scratch Hardness Tester for Paint Testing Electronic Balance	Precision Balance , Range upto 4 kg Hot plate Bursting Strength Machine High Purification Water Purification System Salt Spray Cabinet Digital Coating Thickness gauges Ford Flow Cup Humidity Meter Corrosion cabinet Stop Watch Abel Flash Point Apparatus	Nil	Laboratory Centrifuge for Paints Flammability Test Chamber: Wet Film Thickness Gauge Taber dry abrasion Tester: Wet Abrasion Tester Color Comparator for Paints Drying Time Recorder UV Weathering App Digital Hygrometer	Plastic & Rubber Testing Apparatus; Paper & Paper Products Testing apparatus; Testing apparatus for Building Materials (Permeability Test, Sieves); Optical Emission Spectrograph for Metal Testing; E2 Class Calibrated Weights; Mass Comparator 5 Kg Cap.; Calibration of Viscosity Tubes; Calibration of Humidity Meter; R.H. Calibrator with Humidity Bath; Expansion of Thermal Calibration; Standard Platinum Resistance Thermometer

	Division	2007-08	2008-09	2009-10	2010-11	2011-12	Next 5 years (proposed)
	Metallurgy						Horizontal Rope/ Chain testing m/c, Electronic UTM, Magnetic particle crack detector, Micro Hardness Tester, Industrial X-ray machine, Ultrasonic Flaw Detector, Calibration of Force measuring devices
	Electrical	Nil	Nil	Nil	Computerised Testing Equipment for X & Y colour co ordination test for CFL Lamp	EMI Test Signal analyzer (10Hz to 30 M Hz), LISN 16A, Single Phase & Van Veen Loop antenna (2mtr. Dia)	DC High Voltage Test Set; 0-70KV Multiproduct Calibrator , 0-1000V AC/DC,0-20Amp AC/DC, LED Testing equipment set for complete testing of LED based Lamps/ Luminaires; Computerized dry

	Division	2007-08	2008-09	2009-10	2010-11	2011-12	Next 5 years (proposed)
							cell testing set; Facility for Electrical Motor Testing associated with pump
TC-Chennai	Chemical	Fly Ash, Cement, Paint			Alpha / Beta / Gamma counting. Bio Technology, Packaged DW		
	Mechanical	-			Volumetric, Thermal (site calibration), UTM		
	Metallurgical	Non-stick tawa, Milk can, TMT/HSD bars/wires, Cement Flooring tiles, Ceramic / Vitrified tiles, Flush/Panel door shutters, Manhole cover, SS Sink			-		
	Electrical	AAA Conductors, ACSR Conductors, Transmission line equipments			Domestic Electrical Appliances, Solar Panel Accessories (LED, Inverter, PV modules)		
TC-Mumbai	Chemical	Vacuum Test apparatus with Negative Pressure Gauge. Determination of amount of Halogen Acid Gas etc. Hot Air Oven Heating and Conditioning test (reassembled type) Programmable Environmental		Upgradation of Air Delivery measurement system Digital chromocity meter for X,Y, and Z readings for colour test as per specifications.	Equipment for measuring copper purity by Electrolytic method as per IS:440	LUMETRON NF-5 Needle Flame Test Set as per IEC 60695-11-5 and IS:11000-2-2	New facilities for hallmarking testing in gold, water analysis and phthalates testing in toys. New facilities for food products.

	Division	2007-08	2008-09	2009-10	2010-11	2011-12	Next 5 years (proposed)
		(Composite) Test Chamber					
	Mechanical			Motorised skewing/slicing machine			New facilities for Agro machineries and equipments testing.
	Metallurgical	Springness tester					-
	Electrical	Computerized Controller test set up for storage type Electric water heaters Computerized controller test unit for Electric Iron Non contact Tachometer Digital multimeter Megger 500VDC/1000M Endurance test panel Calorimeter Cold Impact test for cables, Test Eqpt for Elec		Digital Tong Tester Rangle:0-400A AC/DC High voltage AC Test set(15KV) with KV meter leakage, current and Timer.	Basic equipment set for Electrostatic discharge (ESD) IEC 61000-4-2. Bleeder resister cable as per IEC 61000-4-2 Comparative Tracking Index (CTI) and proof tracking index (PTI) test apparatus as per CL.29.2 of	Transient over voltage test equipment with accessories Resistivity meter (Conductivity meter) for liquids etc Voltech make three phase power analyser	New facilities for electrical LED, Luminaries etc.

	Division	2007-08	2008-09	2009-10	2010-11	2011-12	Next 5 years (proposed)
		accessories Test bench unit for testing of Luminaires for endurance and thermal test Electrical Panel Upgrade Single phase power Analyzer PM-100			IS:302-1/2008 Jigs for measurement of Conductor Resistance Variable rheostats (1 and 2 Amps) Vane type anemometer with digital display with RS232 interface to PC		
Testing Stations							
TS-Bangalore					New testing facilities for testing of T5 Lamps, additional testing,		
TS- Bhopal				Digital Thermal Hygrometer, Meltter			

	Division	2007-08	2008-09	2009-10	2010-11	2011-12	Next 5 years (proposed)
				Electronic balance, ,Platinum crucible with Lid .			
TS- Hyderabad					Ultrasonic Flaw Detector, Sample polisher	Digital Vernier Calipers, True RMS Clamp meter, Metallurgical microscope, Oxygen index tester, Smoke density test apparatus ,Halogen acid Gas Generation Test Apparatus, Flammability Testing Apparatus, Digital Electronic Weighing machine-300Kg, Digital Electronic Weighing machine-50Kg, Gloss Brightness, Opacity tester, Salt Spray	

Division	2007-08	2008-09	2009-10	2010-11	2011-12	Next 5 years (proposed)
					chamber	
TS-Jaipur					Optical Emission spectrometer(Rs.39 Lakhs), Digital Hardness Testing Machine, Upgradation of universal Testing Machine	Upgradation of Testing facilities for Testing of cement concrete products like as C.C. Cube, CSM Cubes, Interlocking tiles etc.
TS-Kolhapur		Digital Coat Measure Machine, Salt Spray Chamber, Distilled				Proposal for Extensometer for Proof load is pending. AD i/c also discussed the

	Division	2007-08	2008-09	2009-10	2010-11	2011-12	Next 5 years (proposed)
			Water Unit				need for a second OES
TS-Puducherry		No additions of Eqpt at TS- Puducherry during this period					No proposal for 2012-13 or 12th FYP
TS-Ettumanur		There has been no Testing Activity at this Station for last 5 years and there was no addition of Eqpt i.e. after the Lab was shifted from Changanacherry to Ettumanur. All the Rubber Testing Eqpt in the lab has become most probably obsolete or unserviceable .					One year back the TS submitted a proposal to set up Water Testing Facility at a cost of Rs.15,75,000/- This is pending.

Technology Up-gradation Proposals for the 12th Five Year Plan:

With the present technology level existing at TCs, there is definite need for a well thought out plan for Technology up-gradation so that these Centres can retain their earlier position as front-line laboratories. Initial steps required are:

- On the Equipment front, technological gaps and imbalances in the facilities need to be identified and remedied. Emerging Testing needs such as now proposed by the TCs need to be supported. For example the consultants noticed that, while many smaller laboratories and even MSME units are equipped with Optical Emission Spectroscope (OES) for spark analysis of metals, the TC-Kolkata does not have this equipment.

- Food and Water testing lab appears to be a missing link in the TCs set up considering the number of MSE units in the food sector.

- The effort commenced in 10th and 11th Plan periods for equipping the TCs with equipment for analyzing toxic elements in toys and other products, like phthalates. The work is still unfinished and needs further attention in the 12th Plan. Similarly the efforts that started sometime back for establishing food testing in some of the TCs could not progress well because they could not overcome the infrastructure and manpower constraints of establishing microbiology lab which is essential for testing food related items and drinking water. TC-Chennai has recently established microbiology tests and radio nuclide tests. TC-Kolkata is managing a food testing laboratory though without these essential facilities. This too needs to be addressed in the 12th Plan.

- Non-Destructive Testing (NDT) facilities in the TCs are in a state of shrinking down. Traditionally there were no Gamma Ray radiography facility in the TCs. Now all the TCs except TC-Kolkata have closed their X-Ray radiography facilities as well. The radiography technicians in these TCs are engaged in other testing activities. Ultrasonic testing in the TCs are also on the decline. While it is true that many private service providers have entered the field of NDT and are offering prompt services including on-site testing, it is suggested that the possibility of modernizing the NDT facilities at the TCs and TSs be explored during the 12th Plan period.

- There is also the need for phasing out and removing unserviceable and obsolete equipment from the laboratories. If at all a lab decides to maintain an old, rarely used equipment, the same should be well maintained.

Technology Up-gradation and Modernization of TC Delhi:

Till the end of 10th plan period, the TC- Delhi had maintained its position as the leading laboratory for testing of MSME Products and raw materials. During the 11th Plan it has shown a trend of decline. The reputation of TC-Delhi as the most preferred laboratory for all third party testing needs of several Govt. Purchase Organizations in Delhi is somewhat fading. It could be because of competition from the growing number of private laboratories

with NABL accreditations. It is possible that frequent change of Directors over last 5 years may have affected its performance as well.

In spite of this, as the lab offering a wide range of facilities for MSMEs, under one roof, TC Delhi continues to be the highest revenue earning Centre among all TCs. But there are imbalances and technology gaps that need to be addressed. It is no more able to fully serve the growing technological needs of MSMEs and others, especially on export marketing front. The Toy testing facility could not become full-fledged because of lack of facilities for testing toxins like phthalates. Food and Drinking water testing is another area missing at TC Delhi. Its mechanical calibration facility especially in length parameter is almost stagnant in spite good market. Electrical calibration needs to be revived. Force Calibration of Proving rings and hardness calibration are done outside NABL for want of right equipment. All this points to the fact that TC Delhi needs to undergo a large scale Modernization and Technology up-gradation task.

The proposed setting up of a **National Centre for Quality Testing (NCQT)** at TC Delhi will be the right step in this direction. The Proposal involves up-gradation of all the four existing labs of TC Delhi with the addition of a Consultancy Cell.

The Main feature of the NCQT will be:

- Up-gradation of all the 4 testing Labs and 3 Calibration labs under mechanical, electrical and force (met lab)
- To remove imbalances, to provide complete testing facilities for any selected MSME product
- To provide testing facilities as per international standards to help in export growth from MSMEs.
- To add new features such as testing of toxins, microbiology tests, radio nuclide tests, CFL & Luminaries testing etc

Details of the proposed NCQT are attached as Annexure 4.

It may require additional space of about 1200 sq.m. attached to, or adjacent to TC Delhi building.

Consultancy Cell:

As stated earlier, a consultancy cell headed by a Deputy Director level officer will be another feature of NCQT.

This Cell should be equipped to provide a consultancy platform not only to TC New Delhi and proposed NCQT but to other TCs and TSs as well. It could act as a Technology Resource Nodal Centre for the TCs/ TSs and advise and assist the TC/TS division of DC-MSME. It could be a prelude to setting up such Consultancy cells in other TCs later with main task of developing regular training and consultancy activity.

2.10 Staffing

Both Technical and Administrative staff for TCs and TSs are provided from the MSME Development Organisation comprising MSME-DIs , Br. DIs, TC/TS and the HQ o/o DC (MSME). All the staff, from the Director to the junior most employee are all Central Govt. employees.

MSME-DO Cadre

All the Seniors from Director to Investigator/Office Supdt, belong to the all India Cadre of MSME Dept and for staff below this level it is State wise Cadre. The Technical Cadre of MSME-DO is further organized field-wise like Mechanical, Electrical, Chemical, Metallurgical and many more. The Senior posts are filled by the DC-MSME either by promotion or recruitment through UPSC or the Staff Selection Commission. As for junior staff, state level cadre controlling authority viz the MSME-DI of that state take action for filling up vacant posts at TC/TS by transfer, promotion or recruitment. There is a feeling in TC/TS circles that in this process, the concerned MSME-DI always gives preference to their own needs over the requirements of TC/TS. For each level the dept. has fixed the promotion/recruitment ratio.

Transfer, Promotion, Recruitment:

There are specified sanctioned posts for each TC and TS as given in the tables. This can be altered by the Dept, if a need arises. When a post in TC/TS falls vacant, the cadre controlling authority takes action for filling it up by transfer, promotion or recruitment. The filling up of vacant posts may take anywhere from a month to several years depending on the priority bestowed by the Dept. Till then the Director/ Officer i/c of TC/TS have to manage with available resources. The attrition of staff can happen due to transfer or retirement. Contract employment is permitted only at labour / security staff level, with the prior sanction of DC-MSME.

While recruiting technical staff it is not specified whether it is for TC/TS or for other offices. Laboratory experience do not find a place in the recruitment rules.

Shortage of Man-Power

Shortage of technical and managerial staff seems to be one of the major operational constraints faced by the TCs and TSs. As can be seen from the table below, the proportion of vacancies varies between 10% (TC-Kolkata) to 35% ((TC-Mumbai) of the sanctioned staff strength of various TCs. Some of these vacancies have not been filled for several months.

It need not be over emphasized that adequacy of staff, both in terms of number as well competence/skills, is of paramount importance in performance of the TCs/TSs.

	Sanctioned strength	Staff In position	Vacancies	Details of Vacancies
Testing Centres				
TC-Delhi	55	42	13	Chemical: AD (Gr II) Metallurgy: DD, AD (Gr I), AD (Gr II), Dark Room Technician, Skilled Worker Grade 1 Electrical: DD, AD (Gr II) – 2 nos, Skilled Worker Grade 1 Admin: Office Superintendent, UDC, Driver
TC-Kolkata	43	39	4	DD, Investigator, Hindi Translator, UDC
TC-Chennai	40	28	12	Chemical: DD (2 posts) Mechanical: Investigator Electrical: Investigator, Skilled Workers (2 nos) Admin: UDC/LDC, Stenographer, Driver / MTS (3 nos)
TC-Mumbai	35	23	12	Chemical: DD Metallurgy: AD (Gr II), Investigator, Dark Room Technician Mechanical: DD, Investigator Electrical: DD, AD (Gr II) – 2 nos, Investigator (2 nos.) Admin: Hindi Typist
Testing Stations				
TS-Bangalore	4	2	2	2 AD posts are vacant. AD(Elec) and AD(Chem) on Duty from MSME-DI are looking after the work. DD(Eltx) from DI is holding Charge of TS

	Sanctioned strength	Staff In position	Vacancies	Details of Vacancies
TS- Bhopal	11	7	4	-
TS-Hyderabad	12	8	4	Posts of Dy. Director, AD (Elec), LDC, Watchman are vacant
TS-Jaipur	8	8	-	
TS-Kolhapur	7	6	1	Post one MTS is vacant
TS-Puducherry	7	5	2	AD Gr-I: Vacant since July-2009, Watchman-1
TS-Ettumanur	6	2	4	Posts of AD-GrI, AD-Gr-II,LDC and W'man are vacant

2.11 Details of Staff training in last 5 years

While all TCs emphasise the need for continuous upgradation of staff skills through periodic training, it appears that deputing staff for training programmes does not get due priority, as reflected in the data for last five years.

		No. of training programmes	Mandays of Staff training			Total Cost (Rs.)
			Senior	Middle	Junior	
TC-Delhi	2007-08	14	58	32	0	N.A.
	2008-09	11	29	4	10	N.A.
	2009-10	3	29	12	0	N.A.
	2010-11	3	78	38	0	N.A.
	2011-12	4	44	72	0	N.A.
TC-Kolkata	2007-08	6	18	0	3	46,147
	2008-09	6	18	6	0	97,175
	2009-10	2	9	3	0	34,831
	2010-11	1	21	63	0	48,000
	2011-12	3	15	3	0	42,949

		No. of training programmes	Mandays of Staff training			Total Cost (Rs.)
			Senior	Middle	Junior	
TC-Chennai	2007-08	1	2	0	0	N.A.
	2008-09	6	29	15	4	N.A.
	2009-10	2	3	5	10	N.A.
	2010-11	2	7	-	-	N.A.
	2011-12	4	12	30	-	N.A.
TC-Mumbai	2007-08	2	17	-	-	N.A.
	2008-09	6	36	-	-	N.A.
	2009-10	2	5	30	-	N.A.
	2010-11	2	16	-	-	N.A.
	2011-12	1	14	-	-	N.A.

In-house training not included

Senior: AD and above
Middle: Investigators
Junior: Senior/Junior Lab Assistants, Instructors, Administrative staff

2.12 Advisory Committee

Except for TC-Kolkata, where the Advisory Committee has been revived in 2011-12, all other TCs have not had the benefit of an active Advisory Committee for many years. As the name suggests, an Advisory Committee is expected to play a role of oversight of the respective TCs, besides providing guidance / advice for proper functioning. It is important that necessary steps are taken urgently for constituting these committees and regular meetings are held to achieve this objective.

TC-Delhi: Advisory Committee of the TC New Delhi was in-active much before the 11th FY Plan period. As a result, no meetings of Advisory Committee / Board was held during the 2007 - 2012 period

TC-Kolkata The Board was re-constituted recently and first meeting was held on 2nd Dec 2011.

TC-Chennai: Advisory Committee of the TC-Chennai was in-active much before the 11th FY Plan period. As a result, no meetings of

Advisory Committee / Board was held during the 2007 - 2012 period

TC-Mumbai Since last 10 years no Advisory Committee meetings have been held.

2.13 Demand-Supply Gap assessment

None of the TCs have a formal mechanism in place for gathering market intelligence relating to demand-supply situation for calibration/testing facilities. The identification of unmet demand is essentially based on ad hoc feedback obtained through interactions with customers, industry associations, etc. based on which resource requirements are projected to DC-MSME.

TC-Delhi The TC claims to be in a position to meet the demand in the coming years, both in terms of capability (equipment) and capacity. However, no assessment study of market for testing and calibration has been undertaken, nor any formal methodology developed for this purpose.

TC-Kolkata No formal methodology is adopted for market analysis, however periodic discussions with leading Associations and customers like BIS, Defence establishments, etc. enable the Centre to assess the market situation.

Facilities for testing Nitrogen content in Steel and LED/ LCD are two fronts which need immediate consideration.

TC-Chennai No formal methodology adopted by the TC for assessing the demand-supply gap. Demand situation is continuously assessed based on fee-back from customers.

TC-Mumbai No formal methodology in place for assessing the demand-supply gap. Demand situation is assessed based on fee-back from meetings with industry associations and customers. A Marketing Cell has been formed for such interactions.

As per the present assessment, there is not enough capacity in the area, for testing of Luminaires, Solar Products, LEDs, Cables, Toys and Agro machineries.

2.14 Other leading Testing / Calibration Agencies in the area (Competition)

The TCs and TSs face competition from other Govt. and private testing / calibration agencies in their respective areas, though the extent of competition varies. Competition is more for TCs located in leading metropolitan cities and less for TSs located mostly in smaller cities.

Some of the key competitors identified by the TCs and TSs are listed below:

	Govt. agencies	Private sector agencies
TC-Delhi	- ERTL (North), Okhla Indl. Area, New Delhi	- Precision Calibration & Testing Services - Mitutoyo Calibration Services - Spectro Laboratory - Belz Calibration Services, Faridabad. - Classic Instrumentation, NOIDA. - Bagson Calibration Laboratory
TC-Kolkata		
TC-Chennai	- Electronics Test & Development Centre (ETDC) - Chemical Test and Analytical Lab, (Dept of Industry & Commerce, Govt. of Tamil Nadu) - National Test House, CSIR Complex	
TC-Mumbai	- National Test House (WR), -	- Institute for Design of Electrical Measuring Instruments - Tiki Tar Industries (India) ltd., - ELCA Laboratories, - Geo-Chem Laboratories (P) Ltd. - Jewel Metallochem Laboratory Pvt. Ltd., - Metallurgical Services, - Offshore Testing and Inspection Services (India) Private Limited -
Testing Stations		
TS-Kolhapur		- Metafore Synthesis, - Usha Metal Lab - Mahalaxmi Chamber, Near - Menon Piston Pvt. Ltd. , - Gnat Founders, - The Kolhapur Steels Ltd -
TS-Bangalore	- Central Power Research Institute, Ministry of Power,	

	Govt. agencies	Private sector agencies
	- Bureau of Indian Standards	
TS-Jaipur	- National Test House Road No. 9 F2 ,VKIA, Jaipur - Malaviya National Institute of Technology , - JLN Marg Jaipur - Geological Survey of India - Jhalana Doongri, Jaipur - Jaipur Vidut Vitran Nigam Ltd (JVVNL) - Hawa Sarak, 22 Godam, Jaipur - Jaipur Development Authority ,Jaipur	- M/s CEG, - Malaviya Nagar Jaipur - M/S Millenium Consultants & Techno Crafts , - 33, Nalana Vihar, Maharani Farm, Durgapura, Jaipur

A new form of competition has also emerged in the form of industrial units having in-house testing facilities which are being commercially offered discreetly to other units. TS-Kolhapur has reported that there are nearly 80 – 100 units in their area with In-house facilities including OES, Micro analysis facility, which they are offering to other units located in the cluster.

In another development, TS-Bangalore is facing competition from Consortium of Electronics Industries of Karnataka (CLIK) which has been funded by DC (MSME), New Delhi for calibration facilities.

TS Puducherry appears to have least competition since there are no other commercial run testing laboratory at Puducherry. As per the information from the TS, the total testing work of Puducherry done in local labs are shared by MSME-TS : 20% and Puducherry Engg college: 80%.

2.15 Quality of testing and calibration equipment vis-à-vis competition

The general perception among TCs and TSs is they have sophisticated and better equipment, vis a vis competition. However, Consultants find that while that this may have been true a few years back, during the 11th Plan period the TC has not kept up sufficiently with the competition in terms of latest technologies and rising needs of customers.

TC-Kolkata and TC-Mumbai shared that the equipment available at the centres have better accuracy in terms of better values for the “least-value” specified by NABL on Measurement of Uncertainty in Testing and Best Measurement Capability in Calibration, and are therefore, well placed vis a vis competition.

2.16 Feedback of MSMEs on the Quality of Services provided by TCs/TSs

Parameter	Feedback of MSMEs in the respective locations who are existing customers of TCs (Users)
Testing Charges	Most Users find the charges of TCs/TSs to be reasonable, and marginally lower than other Govt. labs. However some private labs are reported to be charging lower rates than TCs.
Time taken to deliver results	Quick - 40% respondents Reasonable - 40% respondents Too much - 20% respondents Overall the respondents state that TCs take less time than other Govt. labs for similar tests, though private labs are significantly faster in their response time. One of the respondents shared the experience that for a particular test a private lab provided the results in 3 days while the TC used to take about 15 days.
Mode of payment	By DD – 50%, Cash-40%, Cheque-10% *(Note: This is more applicable for TSs, as Testing Centres other than Kolkata are accepting payment by cheques)*
Accuracy of Test Results	95% respondents find the results accurate, others didn't respond
Confidentiality of Test Results	75% feel due confidentiality is maintained
Quality of Treatment	70% - Excellent 30% - Good
Working hours and Holidays	None of the respondents had any complaint about Govt. working hours and no. of holidays
Completeness of facilities	Only 10% of the respondents feel that the TCs do not have full facilities to serve their requirements
Reason(s) for preferring TC/TS	Many years of association – this is an important consideration for customers as they are comfortable dealing with the same agency. Availability of full facility for their products, Close proximity In case of TCs the respondents do not identify NABL/BIS accreditation as a consideration for choosing agency. This may be because such accreditation is a basic requirement without which they would not even consider a test lab. Where as in case of TSs many respondents said they do

Parameter	Feedback of MSMEs in the respective locations who are existing customers of TCs (Users)
	not come to the TS because there is no NABL accreditation.
Suggestions	20% would prefer cheque payment facility (instead of cash/DD) One customer wanted third party witnessing during testing at the TC/TS for validation. Additional/new facilities for Testing of Solar panels, electronic regulators & graphite blocks.

Parameter	Feedback of MSMEs in the respective locations who are <u>not</u> customers of TCs (Non Users)
Awareness	40% of the respondents are aware of TCs/TSs Of this, only 25% are actually aware of the nature and quality of facilities available at the TC/TS
Past Experience with TC/TS	20% respondents
Reasons for switching to another lab or for not choosing TC/TS	Time taken for providing test results is the main consideration, as most of the customers require quick response. Distance from their premises to the TC/TS is cited as the second most important reason for opting for another testing agency
Intention to use the services of TC/TS	100% of the respondents are open to engaging the services of TC/TS in the future
Suggestions	Sample Collection facility for units located at long distances from the TC/TS, as offered by some of the private laboratories, who arrange for collection of samples at customers' premises and deliver Test Reports. Similar facility is also offered by Calibration Labs as well, including on-site calibration facility. Alternatively, consider setting up Extension Counters in the distant industrial clusters More awareness needs to be created among units about the facilities available at respective TCs/TSs

2.17 Interactions with MSME / Industry Associations

In general, the centres are in touch with the local/regional Associations for their support in advisory capacity and also involve them for important decisions like future expansion, important seminars and technology applications in the field of Testing and Calibration. Associations are contacted periodically as per specific requirements. Associations support and cooperate

with the TCs on various aspects. Outcome of interactions with the Associations are reflected directly and indirectly in terms of no. of jobs received with the growth in revenue.

Feedback of Industry Associations

The local and regional industry associations in the locations of TCs do not maintain any data on the testing and calibration needs of their member MSMEs and other industrial units, nor are they approached by their members for advice/assistance in this regard. While all the associations are aware of the facilities available and services offered by the TCs/TSs, their view is that close proximity of the testing laboratory and quick delivery of test reports are the two most important considerations of the units in selecting the testing agency.

The perception of the associations' office bearers regarding Government and Private testing/calibration agencies in their regions are summarised below. It is seen that except on the parameter of 'time taken for delivering test reports), on all other parameters, the Govt. supported agencies are perceived as better or equivalent to private sector agencies.

Factors	**Rating (on a scale of 1 to 5)** (1 for "Fully meets the requirement" and 5 for "Not at all meets the requirement"	
	Government	**Private**
Adequacy of facilities & infrastructure	3	4
Cost of testing / calibration	2	3
Time taken for delivering Test Reports	3	1
Acceptance of test reports by buyers	2	4
Accuracy of results	1	1
Overall experience	1	2

2.18 Constraints faced in functioning:

	Infrastructure	Manpower	Equipment / facilities	Financial support	Competition	Any other
Testing Centres						
TC-Delhi	Nil	Nil	Nil	Nil	Nil	Nil
TC-Kolkata	- Provision required for safety precautions relating to handling of combustible gases and other hazardous chemicals and materials. - Additional separate infrastructure is necessary for initiating Microbiological Testing Lab for Food, Biotech Lab and also for Toy Testing Lab etc.	- Additional Technical staff for Electrical Division which receives highest number of jobs and also highest revenue. - Skilled technical staff for new areas of Microbiological testing of Food and Biotech - Each Division / Lab should be headed by a Deputy Director with responsibility of marketing and liaison. At	- Equipments like Optical Emission Spectrograph, Horizontal Chain Rope Testing Machine (1000KN), Microbiological Testing Instruments, Biotech Testing Instruments, Instruments for Toy Testing, etc. need to be supplemented.	- Master CD from BIS for IS specifications with latest amendments, needs to be purchased for the Library, which is valued at several lakhs of rupees, - Adequate and timely sanction of funds for raw materials & consumables, servicing & calibration, purchase of instruments, maintenance of NABL & BIS accreditation /	No issues	- Present office procedures should be supplemented and streamlined by ISO Systems / Sevottam to fulfill quality objectives in a time bound manner as per existing Quality Policy. -

	Infrastructure	Manpower	Equipment / facilities	Financial support	Competition	Any other
		present, two posts of Deputy Directors are lying vacant - Investigators in each discipline are felt necessary to supplement and balance the projected revenue in the coming 5 years. - Watch and ward staff from outsourcing agency to supplement the present staff - 2 Multi- Tasking Staff (Sweeper and Farash) should also be included for cleanliness purpose as per the guidelines		approval should be provided.		

	Infrastructure	Manpower	Equipment / facilities	Financial support	Competition	Any other
		of NABL. At present, managing with Casual Labour (Temporary Status)				
TC-Chennai	No	Severe manpower shortage in Electrical division which has both Testing & Calibration facilities and annual revenue more than Rs. 40 lakhs, with only one Skilled Worker as tech staff other than the Dy. Director I/C. Three Technical Posts are vacant.	No	No	Yes	No separate sanction for Marketing/Publicity, except for printing of brochures through Government of India press.
TC-Mumbai	Maintenance of infrastructure, by	Manpower shortage is a	Nil	Nil	Nil	Nil

	Infrastructure	Manpower	Equipment / facilities	Financial support	Competition	Any other
	CPWD is not satisfactory	constraint - Chemical Division requires 2 Testing staff at Investigator level. - Other Lab divisions also need Investigator level staff - Dy Dir or AD Gr.I is required to head the TS Kolhapur.				
Testing Stations						
TS-Kolhapur	Nil	Gap in availability of man power vis-a-vis sanctioned strength	Most of the machineries & equipments were installed at the time of inception i.e. in 1984, and have become depreciated and obsolete.	This office does not have financial freedom. On all of the expenses, it has to be dependent on TC-Mumbai for approval and sanctions. This paralyses the	TS has to compete with other private testing labs offering similar testing facilities. Some MSMEs also have their own in house testing facilities	The TS collects service charges and service tax in cash and deposits in bank, which is transferred through DD to TC-Mumbai. This has created

	Infrastructure	Manpower	Equipment / facilities	Financial support	Competition	Any other
				routine testing activities even in case of urgencies.	and are extending these facilities to other MSMEs. Recently, central govt. has sanctioned funds for foundry cluster to various industrial associations of this area which includes testing activities, this will also be competition in the future.	disputes with Service Tax department. There is also transportation constraint, as the TS is far away from main city, with poor public transportation facilities.
TS-Bangalore	Nil	No permanent technical officer in Electrical div. The Officers deputed / having additional charge do not have working experience nor have full	Nil	Many times, finance is required for repair and maintenance of equipment on priority basis for which the TS has to depend on Head Quarters	Competition is from other Government agencies like CPRI, Bangalore, BIS, Bangalore, CEC, Kukkalur, etc. The TS does not have NABL	The TS collects test charges in the name of Director, MSMEDI, Bangalore and service tax in the name of SBI A/c in separate Demand Drafts,

	Infrastructure	Manpower	Equipment / facilities	Financial support	Competition	Any other
		knowledge of NABL Accreditation etc. These are main reasons for decline in revenue earned and non accreditation of NABL.		for such immediate expenditure not included in pre-planned Budget and may lose Customers because of the delay. For such cases, Director should be empowered for expenditure up to Rs. 1 Lakh for repair and maintenance. Rs. 1 Lakh has to be empowered for NABL Accreditation.	accreditation which is a disadvantage.	which is inconvenient for Customers. Even with many reminders and personal interaction BIS, Bangalore, has not paid pending test charges of Rs. 1.8 Lakhs. HQ has advised TS-Bangalore to solve the problem at local level.
TS-Bhopal	The building needs improvement	Nil	Nil	Nil	Nil	Nil
TS-Hyderabad	The building in which The TS is functioning from a 55 years old	MSME TS has 5 laboratories but only one instructor is	Nil	Nil	Nil	Nil

	Infrastructure	Manpower	Equipment / facilities	Financial support	Competition	Any other
	industrial shed with asbestos cement sheets. Seepage of water is observed during rainy season.	working at present. It is requested to post 2 more instructors by creating new posts in view of the quantum of work, No manpower is available for watch and ward duty round the clock. Also additional manpower is required for sample preparations, testing, cleaning and up keeping the machineries & premises. Suitable posts may be created and filled but				

	Infrastructure	Manpower	Equipment / facilities	Financial support	Competition	Any other
		permission may be granted for outsourcing at least 6 persons (3 watchmen, 2 sweeper cum and cleaner, 1 lab assistant) till suitable Govt. employees are posted.				
TS-Puducherry	Yes	Yes	Nil	Nil	Yes	Nil
TS-Jaipur	Insufficient covered / Built up area for smooth Functioning of the TS.	The TS is facing a manpower constraint in handling the present workload. At least 2 officers are required immediately - One Dy. Director (Metallurgy) & an Investigator (Mech.)	Nil	Nil	Nil	Nil

	Infrastructure	Manpower	Equipment / facilities	Financial support	Competition	Any other
TS-Ettumanur	The TS is now shifted to a renovated portion of the workshop under the MSME-TI. Further necessary building and other facilities need to be created as per the finalized modernization plan .	At present no technical officer is posted/ available at MSME-TS. This is a major constraint for planning & execution of the future plans.	Existing machinery and equipments are obsolete and very old (25 years old equipments). Modern equipments and further investment as per the restructuring plan required.	Further investment as per the restructuring plan may be required	Rubber Research Centre under the Rubber Board is functioning at Kottayam which is 10 KMs away from the TS. Rubber based Common Facility Centre under Govt. of Kerala is functioning at Changanacherry which is about 30 Kms away.	Office Procedures need to be simplified. Functional / Operational freedom for efficient operation also required

Issue of regional jurisdiction:

RDSO has approached TC-Kolkata vide their letter of even number dated 10.03.2011 for inspection and quality certification of Paints (specially Poly Urethane Paints, Primers, Surfacers, Putty, etc.) supplied to Railway by firms. The matter was taken up by TC Kolkata with the office of the DC(MSME) who restricted the issue for Eastern Region only and not for the whole of the country, as desired by RDSO.

This Testing Centre is already having some machineries & equipments for testing samples of RDSO and also the rest are being procured in the financial year 2011-12. This will not be out of place to mention that TC Kolkata is already executing the above jobs with NABL accreditation with adequate expertise in the line. This also fetches considerable revenue from Eastern Region and also outside. This revenue will add to Cash–Cost–Recovery Ratio of this Centre.

2.19 Suggestions to improve the functioning, to better serve the needs of MSMEs:

Based on the constraints faced by the respective TCs and TSs, some of the suggestions cited by them during discussions are enumerated below:

	For improving Cash Cost Recovery Ratio	Improvement of human resources	Technological Upgradation	Introduction of best practices
Testing Centres				
TC-Delhi	Nil	Nil	Nil	Nil
TC-Kolkata	Nil	- Given the nature of jobs handled by the TC, it requires specialized technical training in-country or abroad, which needs to be incorporated for continuous technical up-gradation as well as on commercial aspects. - Training from Private institutions needs to be incorporated, apart from Govt. Institutions.	- Latest information from Internet and also from leading organizations like NABL & BIS will assist the Centre on the issue. - Continuous technological up-gradation is essential.	- Reference to global best practices is usually obtained from National Institutes like NPL, CMERI, BIS and other CSIR Laboratories in India, besides Internet. - Interactions with eminent Scientists during Seminars, Technical Symposia and other knowledge bases are also very useful
TC-Chennai	Optimization of the manpower with respect to Ministerial staff (action already being	The skill levels of the technical personnel have to be updated from time to time in their relevant areas, through	No shortcomings	Already being done

	For improving Cash Cost Recovery Ratio	Improvement of human resources	Technological Upgradation	Introduction of best practices
	taken).	appropriate technical training.		
TC-Mumbai	- Need based contract employment be permitted. - Guidelines be issued from HQ that the Cadre Controlling authority should give priority to the needs of TCs while Transferring Junior Tech & Adm staff.	- Technical Posts in the TCs and TSs may be re-designated as 'Scientists' of appropriate level as being done in ERTL and NTH Laboratories	Nil	Nil
Testing Stations				
TS-Kolhapur	Nil	All staff to be periodically trained to update with time in relevant area. Technical training is required to improve competence in testing area	Most of the machineries were installed at the time of inception, as per the availability and need of that time. Since then lots of technological changes have occurred. Hence, they have become obsolete and needs immediate up gradation as per present trends.	Financial freedom will definitely lead to efficient and timely decision making process thereby reducing unnecessary constraints.
TS-Bangalore	The TS should be	Experienced Technical Officers	A Technical Expert	TS-Bangalore may be part of

	For improving Cash Cost Recovery Ratio	Improvement of human resources	Technological Upgradation	Introduction of best practices
	allotted a financial account for handling of revenue and Service Tax. Head quarters should help in resolving the issue of delayed payments by Government Organizations.	to be posted to TS, Bangalore, to fill up the vacancies on permanent basis. Every year, the TS staff should be provided with minimum of two training programmes (one technical, one QA), both in India and abroad.	Committee consisting of representatives from HQ and external experts may be constituted to review growth, performance of all TCs and TS every year. The Committee may also advise on new testing facilities to be added. The Technical Officers of TCs and TSs may be deputed to various Technical Seminars at International level.	TC-Chennai for NABL Accreditation so that best practices can be replicated and implemented at TS, Bangalore as well.
TS-Bhopal	Nil	Nil	Nil	Nil
TS-Hyderabad	Any posting of officers to TS may be done in consultation with the concerned Director and Assistant Director I/C.	Nil	TCs may train/ guide the TSs in getting the NABL accreditation. .	Centralized BIS Standard E- library (DVD) may be maintained under multi user account by any of the MSME TCs so that other MSME TCs/ TSs can download the required standards
TS-Puducherry			Computerization of this Institute / Lab Machinery &	

	For improving Cash Cost Recovery Ratio	Improvement of human resources	Technological Upgradation	Introduction of best practices
			Equipments, Introduction of e-networking to reduce paper work	
TS-Jaipur	TS-Jaipur may be allotted a separate building of area app.10,000 sq. feet	At least 2 officers are required immediately		
TS-Ettumanur	Nil	Nil	Nil	Nil

3. Conclusions and Recommendations

3.1 Relevance of the Scheme Objectives

Although the scheme for "MSME – Testing Centres" was introduced way back in 1974, and "MSME-Testing Stations" in 1983, the objectives of these schemes continue to be relevant even in the present context as the micro and small enterprises even today require technical support as well as testing / calibration facilities for the raw materials, products etc.

Given that the Govt. of India places a lot of emphasis on development of the MSE sector, including promotion of exports of MSE products, the facilities and services offered by TCs and TSs are likely to become increasingly important in the coming years.

Further, micro and small enterprises constitute about 60% of the total number of customers served by all TCs and TSs, increasing from about 48% in 2007-08. .

All TCs and TSs offer a concession of 25% on the normal tariff to MSE customers. Besides, the technical staff of MSEs are provided in-the-Lab training at TCs /TSs on payment of nominal fees.

Public Procurement Policy

The Public Procurement Policy was approved by the Cabinet on November 1, 2011 and notified by the Central Government through an order dated March 23, 2012, and comes into force with effect from April 1, 2012.

Under the policy, every Central Ministry or Department or Public Sector Undertaking (PSU) is required to set an annual goal of procurement from MSEs from the financial year 2012-13 and onwards, with the objective of achieving an overall procurement of minimum of 20% of total annual purchases of products produced and services rendered by MSEs in a period of three years. After a period of three years i.e. from 1st April 2015, overall procurement goal of minimum of 20 per cent shall be made mandatory.

Meeting the qualification levels and certification requirements of PSUs has been identified as one of the key challenges faced by the MSEs in reaping the benefits of the Public Procurement policy, both in terms of cost of compliance as well as capacity building.

MSME TCs and TSs can play an effective and crucial role in assisting the MSEs in this regard, both as a provider of testing & certification services (at a concessional cost) and also through provision of technical capacity building support through in-the-lab training at a nominal cost.

3.2 Level of Technology and Equipments

The Testing Laboratories of the TCs are fairly well equipped with adequate facilities for testing products and raw materials and carrying out calibrations in the respective fields.

Though the general perception among TCs and TSs is they have sophisticated and better equipment, vis a vis competition, the Consultants find that while that this may have been true a few years back, during the 11th Plan period the TCs have not been able to keep up sufficiently with the competition in terms of induction of latest technologies and rising needs of customers.

In the industrially developed metropolitan cities like Delhi, Mumbai, Chennai and Kolkata, there is growing competition from the number of private laboratories with NABL accreditations in both testing and calibration fronts. The private agencies in these cities are specializing in specific fields while TCs offer services in almost every field of industrial testing. In the smaller cities also, as compared to TSs, private agencies are better equipped and better balanced.

Investments across the TCs and TSs have not been uniform or adequate. During the last 5 years, there have been some years with zero investment in some TCs/TSs and no investment at all in some TSs during the entire period of five years. Some of the centres/stations may be overlooking new equipment purchases, because of shortage of staff, change of Director / Officer i/c, or over emphasis on the revenue for the current year.

There is therefore a definite need for TCs and TSs to revamp, modernize and balance their facilities, and generally organize better. Investment in technology up-gradation and modernization during the 12th Plan should be more than double of the 11th Plan figure with due inflation-correction so that the TCs and TSs can remain competitive and meet the growing needs of MSEs.

The Working Group on MSMEs for 12th Five Year Plan, has in its Report proposed an allocation of Rs.1,000 crores for setting up of 100 new quality testing laboratories including strengthening of existing MSME Testing Centres, during the 12th Plan period. Hence availability of plan funds for technology up gradation of TCs and TSs may not be an issue during 12th Plan and even offers opportunity for a large scale up-gradation to build on the moderate growth during the last two decades.

In addition to the induction of latest technology and equipment, general house-keeping in the laboratories and sample rooms needs improvement, especially in the TSs. Poor maintenance of building and premises by CPWD is a perennial problem for TCs and TSs. It affects the Lab environment, function as well as the general perception about the Centre. Hence at least for urgent maintenance works, the concerned Director be empowered to carry out work up to Rs. 2 lakhs through other approved agencies instead of depending only on CPWD.

The technology upgradation and modernization needs in 12th Plan period, as identified by TCs and TSs are summarized in the report. However, as an illustration the proposal for establishing a National Centre for Quality Testing as part of the technology upgradation at TC-Delhi, is mentioned below:

Technology Up-gradation and Modernization of TC Delhi

Till the end of 10th plan period, TC-Delhi had maintained its position as the leading laboratory for testing of MSME products and raw materials. During the 11th Plan it has shown a trend of decline. The reputation of TC-Delhi as the most preferred laboratory for all third party testing needs of several Govt. Purchase Organizations in Delhi is somewhat fading. It could be because of competition from the growing number of private laboratories with NABL accreditations. It is possible that frequent change of Directors over last 5 years may have affected its performance as well.

In spite of this, as the lab offering a wide range of facilities for MSMEs, under one roof, TC Delhi continues to be the highest revenue earning Centre among all TCs. But there are imbalances and technology gaps that need to be addressed. It is no more able to fully serve the growing technological needs of MSMEs and others, especially on export marketing front. The Toy testing facility could not become full-fledged because of lack of facilities for testing toxins like phthalates. Food and Drinking water testing is another area missing at TC Delhi. Its mechanical calibration facility especially in length parameter is almost stagnant in spite good market. Electrical calibration needs to be revived. Force Calibration of Proving rings and hardness calibration are done outside NABL for want of right equipment. All this points to the fact that TC Delhi needs to undergo a large scale Modernization and Technology up-gradation task.

The proposed setting up of a **National Centre for Quality Testing (NCQT)** at TC Delhi will be the right step in this direction. The Proposal involves up-gradation of all the four existing labs of TC Delhi with the addition of a Consultancy Cell.

The Main feature of the NCQT will be:

- Up-gradation of all the 4 testing Labs and 3 Calibration labs under mechanical, electrical and force (met lab)
- To remove imbalances, to provide complete testing facilities for any selected MSME product
- To provide testing facilities as per international standards to help in export growth from MSMEs.
- To add new features such as testing of toxins, microbiology tests, radio nuclide tests, CFL & Luminaries testing etc.
- It may require additional space of about 1200 sq.m attached to, or adjacent to TC Delhi building.

3.3 NABL and Other Accreditations of TCs and TSs

NABL Accreditation is one of the most important requirements for any testing and calibration service provider as it not only is a key indicator of the technical competence & service quality, it is also an important marketing requirement.

All four MSME-TCs have been NABL accredited for important parameters in both Testing and Calibration for more than last 10 years. They have been progressively expanding the scope of accreditation over the years in both testing and calibration. However, there are still some areas / scopes of testing that TCs carry out outside NABL accreditation as well. However, it is also observed that in several instances the 2 year validity of NABL certification has already expired or is expiring soon.

TCs and TSs need to be encouraged to take timely actions for ensuring continued validity of NABL accreditation. The Director Incharge should be made responsible for initiating necessary steps, including request for financial sanctions for accreditation fees as well as for procurement / upgradation of infrastructure and equipment, as required.

TSs which are not yet NABL accredited should get the same during 2012 to 2014. TCs already accredited should expand the scope of their accreditation as well as extend NABL accreditations to other tests and calibration hitherto done outside NABL. This may require additional financial and manpower resources.

DC-MSME may consider engaging external consultant(s) to review the requirements at each TC/TS on a periodic basis and also validate the financial support estimated by the respective Directors Incharge.

More NABL and Lab Quality System related training need to be arranged - e.g. the technical officers of TSs which are not yet NABL accredited, could be sent for a week to acquaint with the Lab Quality System at the TC. Special subject related training also needs to be arranged at other Ministries' labs, National Laboratories etc.

DC-MSME may also introduce NABL-accreditation related targets for the TSs and monitor the progress through the Monthly Progress Reports.

3.4 Performance of the MSME TCs and TSs

The present mechanism for setting revenue and SS Ratio targets for the TCs and TSs appears to be an academic exercise with very little bearing on the subsequent targets and financial allocations. DC-MSME may consider introducing an Incentive for achieving / exceeding the targets, e.g. giving an annual cash award to all the staff of the Centre which exceeds the target, as being done by NTH now.

It is proposed that target setting should be made into a participative exercise, with respective TCs and TSs being involved in the process, by inviting them to prepare their projections for Revenue and SS Ratio for the next year. This will bring in ownership on the part of TCs and TSs and therefore greater commitment for meeting the targets.

The concerned Directors of TCs/TSs need be empowered to have some control over the expenditure under Salary head.

In order to formalize the technical and/or administrative jurisdiction of TCs over respective TSs, DC-MSME may also consider to introduce a system wherein while computing the performance (revenue and SS Ratio) of the TC, the figures of the TSs under their jurisdiction are also included. This could serve as an incentive for the TCs to perform their role vis a vis TSs more actively.

It is also felt that 'No. of Jobs' should be dropped from targets, but may continue to be monitored.

Mid-term review of performance and advice for course correction, as required, may be introduced.

3.5 Services Portfolio

As mentioned above, most TCs and TSs offer a wide range of testing and calibration services. A-B-C analysis of the portfolio, based on commercial potential (revenue generation) on one hand, and resource requirement (cost involved) on the other. This will help in identifying services which need to be strengthened on priority (Green and Light Green in the matrix below), and those that may be considered for excluding from the portfolio (Red).

Matrix for A-B-C Analysis of Services Portfolio

Resource requirement (equipment, investment, manpower)					
	Low	**A**			
		B			
	High	**C**			
			C	**B**	**A**

	Low High
	Commercial potential (high revenue per job, large no. of jobs…..)

3.6 Calibration and Testing Charges

Almost all TCs and TSs have reported that their rates for various tests are competitive in their respective regions, vis-a-vis other Government and private agencies. Recognizing the fact that TCs and TSs have to operate in a competitive environment, and must aim to eventually become self sustaining, it is important to institute a formal mechanism for tracking the charges levied by other agencies in the respective regions.

Each TC/TS should be asked to report the corresponding charges levied by other agencies whom they consider their principal competitors, for tests which account for highest share of their revenue.

This will also help the TCs / TSs in providing the justification for their targets. For example, if the competitors' charges for a test are lower, and if that test accounts for a substantial part of the revenue for the centre, they can clearly make a case for reducing their charges, and its corresponding impact on the SS ratio in the short term.

3.7 Average Waiting time after a Testing/Calibration job is booked

The time taken by the TCs and TSs seems to be generally more than the competitors from the private sector. Given that this is often a very important consideration for the users in selecting the agency, it needs urgent consideration.

Following steps are suggested:

a) Identify the tests/ products/ calibration in each laboratory division for which customers normally seek reports at the earliest.
b) Work out the minimum time required to do the test / calibration.
c) Work out the minimum time required to (a) take-up the sample for testing / calibration and (b) to complete the test report. This should be 1 day each at the maximum.
d) The total time i.e. (b) + (c) be compared with the time taken by the fastest competitor of the area to establish the feasibility of doing it and fix it as the delivery period for that particular sample.
e) Consider the assurance of this delivery period given to the customer as sacrosanct and non-flexible. There should be a system to inform the customer in advance if any delay happens due to any unavoidable situation.
f) The improved Testing Time thus adopted should be monitored by the Directors.

g) Directors may work out an Index based on average delivery period in each Division, fix targets for the Divisions for bringing down the index, and monitor periodically till it is brought down to desired level.
h) DC-MSME may ask for feedback from the TCs/TSs on improvement in delivery period, in the Monthly Progress Reports.

3.8 Training & Consultancy Activity

Training and Consultancy are not the mainstream activities for TCs and TSs at present. While none of the TCs undertook any consulting activity, even training activity has been on a very low scale, contributing very little revenue. While the infrastructure for training activity at the four TCs is very inadequate, the same at the seven TSs is almost non-existent.

Even well running and revenue earning training courses like the Radiography Training at TC Mumbai in tie-up with BARC, have been discontinued due to financial inflexibility. It is also recognized that even if more emphasis is placed on promotion of these activities, their contribution to the revenue is still likely to remain small.

The 12th Plan Working Group on MSMEs in its Report has placed great emphasis on enhancing training facilities for MSMEs and specifically recommended enhancement of the training facilities at TCs and TSs. Necessary Plan fund for this purpose.could be availed out of the Rs. 2,500 crores proposed for Skill Development of MSMEs during the 12th Plan.

In case the Training function is to be stepped up as mainstream activity, then TCs should be supported with financial flexibility and dedicated resources to form a Training Division and adequate training infrastructure needs to be built up during 12th Plan.

Further, training and consultancy may also be considered a part of promotion and market development for the TCs and TSs as provides an effective forum for visibility and engagement with industrial units in the area. Looking from the view point of MSMEs, there is always need for Training facilities related to Quality System, Testing, Calibration etc.

There is a strong case for discontinuing Consultancy as mandated / revenue earning service of TCs and TSs. They may however continue to provide need based informal consulting support MSMEs.

TCs could be provided with dedicated resources to form a Training & Consultancy Division headed by a Dy Dir or AD Gr.I, and also be supported by the proposed NCQT. The division can also contribute towards market analysis, market development etc.

3.9 Staffing

Shortage of technical and managerial staff is one of the major operational constraints faced by the TCs and TSs. It need not be over emphasized that adequacy of staff, both in terms of number as well competence/skills, is of paramount importance in performance of the TCs/TSs.

Process of allocation and posting of staff needs to be streamlined.

Since Self-sufficiency Ratio is a concern, the staff structure needs to be rationalized. Though it may not be possible to delegate man-power related administrative powers to the Directors of TCs/TSs, a mechanism should be introduced to ensure that their suggestions and requests on man-power front are promptly attended to and given due consideration. More Investigator/Lab Assistant level posts be provided and out-sourcing be allowed at this level for limited periods.

Need for a MSME-Quality Cadre

In comparison to other front-line laboratories, TCs and TSs lack a Technical / Scientific Cadre of its own. Technical experts with sound knowledge in that field alone can properly identify the technology needs, select right equipment, utilize and maintain the equipment well. Other laboratories like NTH, ETDC, ERTL etc. who have a chain of Laboratories as well as leading private testing and calibration laboratories have their own Technical/ Scientific cadre. The senior staff of those laboratories, who have at least a decade of laboratory / quality related experience behind them, are encouraged / motivated to go deeper in to the subject.

However, the Technical man-power policy in TCs and TSs are in sharp contrast. For Technical staff, the postings in TCs and TSs are temporary. They are recruited mainly for MSME-DI function, and transferred between TCs, DIs and MSME-HQ. Many times technical staff comes on a posting without any prior exposure to laboratory environment and at other times experienced and dedicated lab. staff are posted out and lost to the testing/quality field. Whatever good work these TCs and TSs are doing is mainly because of the Technical Staff retained there for a reasonably long duration, which happens more by chance than by design.

It is recommended that MSME-Dept may put in place a policy for recruitment and transfer of Technical Officers and staff to and from TCs and TSs. Staff with qualification and experience in specific laboratory field need to be recruited for TCs and TSs. On the other hand existing staff transferred from MSME-DI etc. should have the right back ground, aptitude and inclination for Lab related work. Once the staff settle in and gain experience, they should be utilized within the TCs and TSs even by making adjustments in the sanctioned posts, at the time of their promotion. Since there are no TC/TS in NE region, staff working in TC/TS may be exempted from compulsory transfer to North East.

3.10 Staff Training

The Technical Training provided to the TC/TS staff requires a qualitative change. There should be more training related to Testing, Calibration, Quality System and Lab Management. TC/TS officers/staff may not be nominated to management and entrepreneurial training along with officers of DIs as their functional requirements are different. TC/TS staff should be sent on training to reputed technical organizations in quality sector both in India and abroad. A list of such training programmes shall be compiled annually at DC-MSME and circulated to TCs/TSs. Attending training programmes should not be voluntary but made mandatory depending on the function of the officer/staff at the scale of minimum two trainings per year.

The Report of the Working Group on MSMEs for 12th FY Plan, under the major vertical **Recommendations on Institutional Structure** (2.6.4 - Re-Engineering and Strengthening of DC-MSME and its Field Offices), has stressed the importance of training of officers of the field offices of MSME-DO and their exposure to global developments. An allocation of Rs. 1,000 crores is also proposed to "*Enable 72 Offices under DC-MSME to provide demand driven services* to MSME sector". (Please refer section 3.15.2 below, for more details).

3.11 Advisory Committee

Except for TC-Kolkata, where the Advisory Committee has been revived in 2011-12, all other TCs have not had the benefit of an active Advisory Committee for many years. As the name suggests, an Advisory Committee is expected to play a role of oversight of the respective TCs, besides providing guidance / advice for proper functioning.

It is important that necessary steps are taken urgently for constituting these committees and regular meetings are held to achieve this objective.

3.12 Demand-Supply Gap Assessment

None of the TCs have a formal mechanism in place for gathering market intelligence relating to demand-supply situation for calibration/testing facilities. The identification of unmet demand is essentially based on ad hoc feedback obtained through interactions with customers, industry associations, etc. based on which resource requirements are projected to DC-MSME.

A formal mechanism is required for yearly market analysis survey, for which necessary training may be arranged with a professional agency to acquaint the selected TC/TS officers with Market Survey methodology and Analysis.

More engagement with local and regional industry associations is also required. It is also emphasized that the associations respond better to interviews and meetings rather than to correspondence.

As mentioned earlier, the Advisory Committee can provide a lot of guidance in this regard.

3.13 Testing Charges

The testing Charges levied by the TCs and TSs are on an average at the middle level when compared to National Level Laboratories and reputed Private Sector Laboratories with international affiliations at the higher end and on the other hand with the smaller, local private laboratories providing testing or calibration in one or two specific fields at the lower end.

The testing charges of TCs and TSs are at present cost effective. When the tariffs of four TCs are compared to each other and with the charges of comparable Govt. Lab chain viz. NTH as well with the BIS approved rates, there is a near convergence of rates, justifying the cost factor.

The key to achieving higher Self sufficiency therefore lies in going for a higher market share and increasing the job booking. This has to be done by rolling out better quality of service. The main attention has to be on faster delivery of service by reducing the delays. Completeness of facilities for full testing of a chosen product, with NABL accreditation, would enhance customer acceptance.

3.14 Competition

The competition faced by the TCs and TSs is not only from other testing agencies. Many of the MSME Clusters being developed with governmental support has included Testing Facilities in their CFC projects. Some such CFCs are in the same area where TSs operate like TS Kolhapur and TS Bangalore.

It is important to highlight at the Ministry level that the Kolhapur Foundry & Engineering Cluster coming up with assistance from Min. of Ind. and Commerce does not duplicate the facilities available with TS Kolhapur.

Similar is the case with Consortium of Electronics Industries of Karnataka (CLIK) being funded by DC (MSME), New Delhi for calibration facilities.

The Increasing trend of MSEs setting up their own In-house testing facility could be another threat to the TCs and TSs in the fields of Spark Analysis of metals, Tensile test, Hardness test etc. Timely investment by TC/TS in new facilities appear to be the solution.

The managers of the TCs and TSs should have with them up-to-date market data, feed back and try to maintain and enhance their market share, and keep regular customers with them.

As part of gearing up for competition, the TCs and TSs need to be supported in adopting international standards and global best practices. For this a **Centralized BIS Standard E- library** may be maintained under multi-user account by any of the MSME TCs, so that other MSME TCs/ TSs can get copies of the standards without much problem and delay. Latest information from Internet and also from leading organizations like NABL & BIS will assist the TCs and TSs to keep abreast with the developments. The Library may also maintain Reference material on global best practices obtained from National Institutes like NPL, CMERI, BIS and other CSIR Laboratories in India, besides Internet.

3.15 Plan Outlay and Needs of TCs & TSs during the 12th Plan

3.15.1 Report of the Working Group on MSMEs

The Working Group on MSMEs constituted by the Planning Commission has made recommendations / proposals related to MSMEs for 12th Plan period. Excerpts from the Report, which may have impact on MSME-TCs and TSs directly as well as indirectly as a field office of MSME-DO, are highlighted below:

		Proposed Allocation in 12th Plan period	**Projected Outcome/ Deliverables**
2.3	**Recommendations on Infrastructure for MSMEs**	**Rs. 1000 crores**	**Door step testing services to MSMEs in important export oriented clusters**
2.3.2	Infrastructure for Quality Assurance		
	There is a need to set up Quality Testing Centres for MSMEs in almost every Cluster/industry concentration, district major industrial area. This activity can be undertaken under Public Private Partnership mode. The group recommends setting up of 100 nos. quality testing laboratories including strengthening of existing MSME Testing Centres, during the 12th Plan period.		
2.5	**Recommendations on Skills Development & Training**	**Rs.2500 crores**	**Skill Development and Quality improvement**
2.5.2	Upscaling of Training Infrastructure		
	MSME TCc and TSs are providing training in laboratory technologies and calibrations along with testing services. Keeping in view the large demand for the skill, the training capacity of these, TCs/ TSs should be enhanced with adequate training facilities		
2.5.7	Faculty development and up gradation		
	……..skill up gradation of the training faculty (of MSME-DO field		

		Proposed Allocation in 12th Plan period	Projected Outcome/ Deliverables
	offices) is essential. For this purpose the Ministry should initiate a program for the periodic up gradation of the skill of the officers of the Ministry to make them aware about the global developments in the area of skill development. Ideally, the faculty development programmes should have linkages with skill development institutions of Germany, Japan and other countries have strong national skill development framework. Research and Development initiatives should also be encouraged among the training faculty leading to regular publication of research papers in frontier and innovative skill development approaches. The issue of faculty training is addressed under the Institutional Structure Vertical.		
2.6	**Recommendation on Institutional Structure**	**Rs. 1000 crores**	**Enable 72 Offices under DC-MSME to provide demand driven services to MSME sector** (Note: Though there is no mention of the TCs / TSs in the narration above, but by head count, 72 Field Offices under DC-MSME, obviously includes 11 TCs/ TSs as well.
2.6.4	Re-Engineering and Strengthening of DC-MSME and it's Field Offices		
	i) To provide support at the grass roots level to MSMEs, there is a immediate need for the resurgence of DC-MSME and it's field establishments. For effective co-ordination regional set up is also required. Re-Engineering of MSME Development Institutes and the Office of Development Commissioner, MSME may be taken up during the 12th Plan Period. The Group recommends allocation of Rs.900 Crore during the 12th Plan Period for Re-Engineering and Strengthening of DC-MSME and its Field Offices. ii) …Some of the areas where immediate training of MSME-DO officers may be instrumental in bringing about the above said impact		

		Proposed Allocation in 12th Plan period	Projected Outcome/ Deliverables
	(developing global competitiveness of Indian MSMEs) are manufacturing process; re-usable asset management; product and service design; hardware development; supply chain management; and Government Policies in select countries in the areas related to MSMEs and its impact on the MSME development in that country. A minimum of three officers of each MSME-DI and five officers from Office of DC-MSME should be deputed for training for the above purpose every year. The Group recommends allocation of Rs. 100 Crore during the 12th Plan Period for this purpose.		

3.15.2 Impact of the 12th Plan Proposals on MSME-TCs/TSs

- **Technology Up gradation and Modernization of MSME-TCs/TSs**

  Under the major vertical: **Recommendations on Infrastructure for MSMEs/** Infrastructure for Quality Assurance, the plan panel has recommended "setting up of 100 Nos quality testing laboratories including strengthening of existing MSME Testing Centres during the 12th Plan period". Allocation of Rs.1000 crore is proposed for this purpose.

  This evaluation had suggested that the allocation for TCs and TSs in the 12th plan should be at least double of 11th plan expenditure. This can very well be met, even enlarged in view of the above plan panel proposals.

  It is understood that the PPP mode recommended by the Working group is only for the operation of 100 new Cluster based Quality Testing Laboratories proposed for 12th Plan and not for the existing TCs and TSs. Due care should be taken so that the new testing laboratories do not compete with the existing MSME-TSs. Further the 4 TCs may have to be equipped to provide necessary support to these proposed 100 Laboratories in Training, NABL accreditation, Calibration of their equipment / instruments etc.

- **Training Infrastructure of MSME-TCs/TSs**

  Under the major vertical: **Recommendations on Skills Development & Training** (2.5.2 Up scaling of Training Infrastructure), the plan panel has specifically noted that the training facility being provided by TCs/TSs to MSMEs. It has recommended that "Keeping in view the large demand for the skills, the training capacity of these TCs/TSs should be enhanced with adequate training facilities". This expenditure is to be met out of the Rs. 2500 crore allocation proposed for Skills Development and Improvement during the 12th Plan period.

As noted earlier in this report, the present training infrastructure of TCs/TSs is highly inadequate. Hence under the Plan allocation, the training facilities and infrastructure at TCs/TSs should be enhanced and Training Programmes for MSMEs be made a prime activity of TCs and TSs along with testing and calibration.

- **Enhanced Staff Training and Development of Laboratory Scientists at MSME-TCs/TSs**

  The Report of the Working Group on MSMEs for 12th FY Plan, under the major vertical **Recommendations on Institutional Structure** (2.6.4 - Re-Engineering and Strengthening of DC-MSME and its Field Offices), has stressed the importance of training of officers of the field offices of MSME-DO and their exposure to global developments. An allocation of Rs. 1,000 crores is also proposed to "*Enable 72 Offices under DC-MSME to provide demand driven services* to MSME sector".

  Though there is no specific mention of the TCs/TSs in the related narration, but by head count, 72 Field Offices under DC-MSME obviously includes the 11 TCs/TSs as well. More over as per present practice, the staff training programme for all MSME field offices are bunched together and TCs/TSs cannot be isolated from this.

  Hence it is recommended that Special Training Programmes for Officers of TC/TS also be organized under this head and the subjects of "Laboratory Quality Management and Industrial Testing and Calibration Practices", be included in the list of subjects cited by the plan panel for international training of MSME-DO Officers.

  Plan panel has recommended five officers from DC-Office and three officers from DIs be sent every year for global level training. It is proposed that officers of TCs and TSs be also considered under this provision.

  The Plan panel recommendation under the vertical on Research and Development initiatives and regular publication of research papers by MSME-DO staff is equally relevant to Officers of TCs and TSs in view of the need to develop a cadre of Laboratory Scientists.