



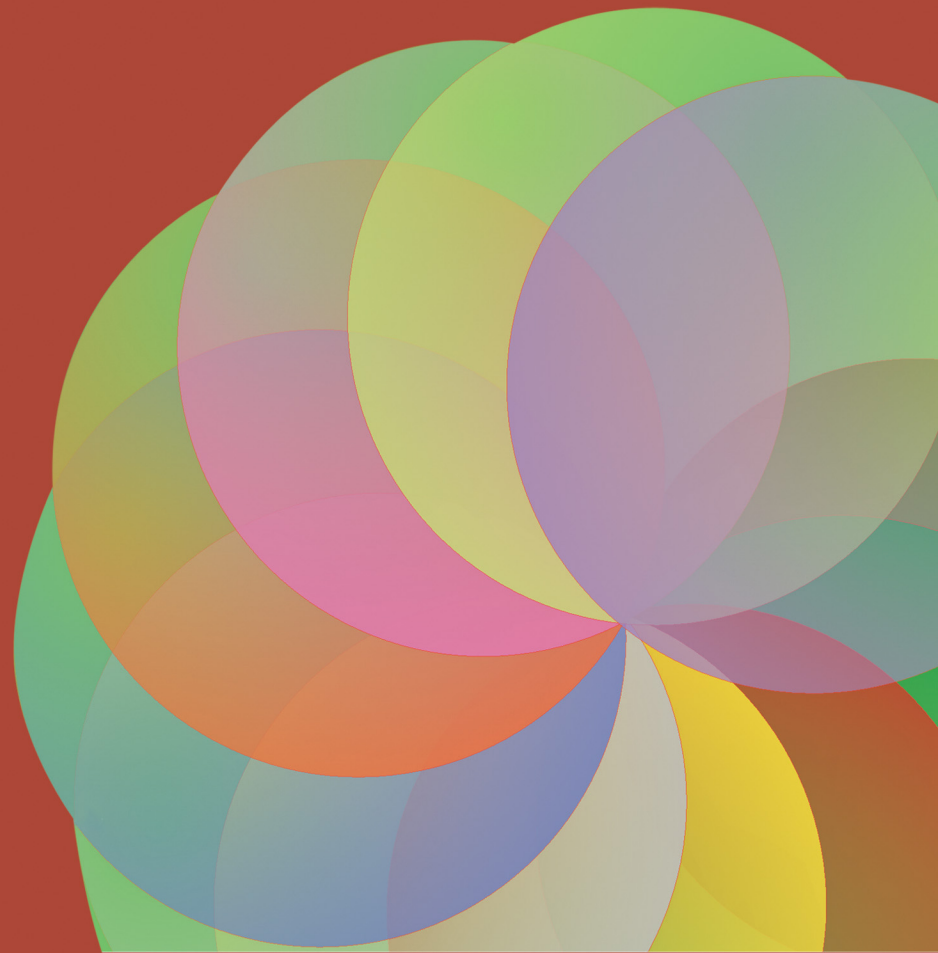
GOVERNMENT OF INDIA

# GUIDELINES

## Enabling Manufacturing Sector to be Competitive through Quality Management Standards and Quality Technology Tools (QMS/QTT)

A Component of  
**National Manufacturing  
Competitiveness Programme**

Development Commissioner  
Micro, Small & Medium Enterprises  
Government of India  
Nirman Bhawan, New Delhi-110 108





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[www.dcmsme.gov.in](http://www.dcmsme.gov.in)

May, 2010

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अपर सचिव एवम्  
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Additional Secretary &  
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03<sup>rd</sup> May 2010

## PREFACE

The Ministry of Micro, Small and Medium Enterprises has launched the National Manufacturing Competitiveness Programme (NMCP) to improve the competitiveness of the Micro, Small and Medium Enterprises (MSME) sector. The initiatives under the NMCP aim at increasing productivity, upgrading technology and conserving energy in the manufacturing processes, as well as expanding domestic and global market share of Indian MSME products. Under the Programme, 10 components have been conceptualised, namely:-

- Lean Manufacturing Competitiveness Scheme
- Enabling manufacturing sector to be competitive through Quality Management Standards/Quality Technology Tools (QMS/QTT)
- Promotion of ICT (Information & Communication Technology) in MSME sector.
- Technology and Quality Upgradation Support to MSMEs (TEQUP)
- Marketing Assistance and Technology Upgradation Scheme
- Marketing Support/ Assistance to SMEs (Bar Code)
- Design Clinic Scheme for Design Expertise to MSME sector
- Setting up of Mini Tool Rooms
- National campaign for building awareness on Intellectual Property Rights (IPR)
- Support for Entrepreneurial and Managerial Development of SMEs through Incubators

This booklet contains the guidelines for the scheme on "Enabling Manufacturing Sector to be Competitive through Quality Management Standards (QMS)/Quality Technology Tools (QTT)". The main objective of the scheme is to sensitize and encourage MSEs to adopt latest QMS and QTT, and to keep a watch on sectoral developments by undertaking the stated activities.

The success of NMCP depends on the active support and involvement of the State Governments, Industry Associations and other stakeholders such as technical institutions and professionals.

It is hoped that publication of the guidelines in the form of handy booklets will facilitate easier dissemination of information about the objectives of the schemes and the role and procedure envisaged for different stakeholders.

  
(Madhav Lal)



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## **ABBREVIATIONS**

BIS	-	Bureau of Indian Standards
CDC	-	Consultancy Development Centre
CEERI	-	Central Electronics Engineering Research Institute
C-Watch	-	Competition Watch
DC (MSME)	-	Development Commissioner (MSME)
DIPP	-	Department of Industrial Policy and Promotion
DGET	-	Directorate General of Employment & Training
Gol	-	Government of India
IIQM	-	Indian Institute of Quality Management
ITI	-	Industrial Training Institute
IIT	-	Indian Institute of Technology
IREDA	-	Indian Renewable Energy Development Agency
MSE	-	Micro and Small Enterprises
NIT	-	National Institute of Technology
NPC	-	National Productivity Council
NID	-	National Institute of Design
STQC -	-	Standardization, Testing & Quality Certification
TERI	-	The Energy and Resources Institute
TPM	-	Total Productive Maintenance
TQM	-	Total Quality Management
QCI	-	Quality Council of India
QMS	-	Quality Management Standards
QTT	-	Quality Technology Tools

## **SCHEME FOR ENABLING MANUFACTURING SECTOR TO BE COMPETITIVE THROUGH QUALITY MANAGEMENT STANDARDS AND QUALITY TECHNOLOGY TOOLS (QMS/QTT)**

### **BACKGROUND**

- 1.1 World over, Micro & Small Enterprises (MSEs) are recognized as an important constituent of the national economies, contributing significantly to employment expansion and poverty alleviation. Recognizing the importance of micro & small enterprises, which forms an important segment of the Indian economy, for its contribution to country's industrial production, exports, employment and creation of entrepreneurial base, the Central and State Governments have been implementing several schemes and programmes for their promotion and development. Among the six basic principles of governance, underlying the National Common Minimum Programme (NCMP) of the Government, 'Sustained economic growth in a manner that generates employment' has a pride of place. The NCMP also describes the small-scale industries sector as 'the most employment-intensive segment.'
- 1.2 It has been ascertained that by implementing Quality Technology Tools (QTT), like 6-Sigma, TQM, TPM (Details at Annexure-B) in certain sectors or group of industries in the micro and small sector, the performance of the industries have improved substantially in terms of productivity (Confederation of Indian Industries, Quality Council of India, etc. have reported improvement by 50 to 100 percent in one year), improvement in quality and reduction of rejections and customer's complaints (by 50% in one and half years' duration). Similarly, adoption of Quality Management Standards (QMS) like ISO 9000/18000/22000, etc, by MSMEs have also shown improved performance. It is therefore essential for the MSMEs to adopt the best manufacturing practices to enable them to be competitive in the current scenario of global competition.
- 1.3 Finance Minister's Budget speech of 2005-06 specially mentions, 'Worldwide, it is manufacturing that has driven growth. In order to revive the manufacturing sector, particularly small & medium enterprises and to enable them to adjust to the competitive pressure caused by liberalization and moderation of tariff rates, new scheme is proposed to be launched that will help them strengthen their operations and sharpen their competitiveness. The design of the scheme has been worked out by the National Manufacturing Competitiveness Council (NMCC) in consultation with the Industry.' The Finance Minister's speech of 2006-07 states 'NMCC along with relevant stakeholders like the Ministry of MSME has conceptualized and finalized the components of the programme incorporating suitable inputs from the stakeholders.' Accordingly, the draft EFC note was circulated to various ministries/organisations and the same was approved in the EFC meeting held on 15-10-2007 under the chairmanship of Secretary (MSME).
- 1.4 This component of the scheme of National Manufacturing Competitiveness Programme (NMCP) envisages Micro & Small Enterprises to understand and adopt the latest Quality Management Standards (QMS) and Quality Technology Tools (QTTs) so as to become more competitive and produce better quality products at competitive prices. The adoption of these tools will enable MSEs to achieve:



- (i) Efficient use of resources.
- (ii) Improvement in product quality.
- (iii) Reduction in rejection and re-work in the course of manufacturing.
- (iv) Reduction in building up inventory at the various stages in the form of raw materials, work-in-progress, finished components, finished products, etc.

This will also enable the MSEs to enter into or strengthen their position in the export market.

- 1.5 The Competition Watch sub-component of this scheme will enable Indian MSE, to understand the latest foreign products that are penetrating in the Indian market.

## **2.0 OBJECTIVE**

- 2.1 The main objective of the scheme is to sensitize and encourage MSEs to adopt latest QMS and QTT and to keep a watch on sectoral developments by undertaking the stated activities.

## **3.0 MAJOR ACTIVITIES**

### **3.1 INTRODUCTION OF APPROPRIATE COURSE MODULES FOR TECHNICAL INSTITUTIONS**

- 3.1.1 This activity entails the development and introduction of training course modules in technologies like 6 Sigma tools, 5 S, Kaizen tools, etc, at ITI and Diploma-level courses. Currently these courses are not available in these institutions and as a result, industries have to spend lot of time and effort to retrain the students passing out from these institutions. By implementing this activity, it is expected that trained manpower will be made available to micro & small enterprises in the field of QMS/QTT. It is proposed to cover about 1,800 ITIs and Polytechnics in four years of the XI<sup>th</sup> plan. The selection of the technical institutes will be done in consultation with DGET and other stakeholders.

- 3.1.2 The following sub-activities are proposed under the scheme:

- Study the gap analysis
- Develop Training Material Kit
- Train 80 Master Trainers
- Identify ITIs/Polytechnics
- Organise 5-days' Training in selected ITIs/Polytechnics
- Engage Consultants/Experts (through the Quality Council of India & other expert organisation as per Annexure-C)
- Introduce International Training/Best Practices Studies
- Conduct Workshop at Metros
- Organise National Workshop in Delhi
- Take up any other relevant activity decided by the Monitoring & Advisory Committee.

3.1.3 This activity may be outsourced to the Quality Council of India (an autonomous body under DIPP), which is an apex national body on quality-related issues, or to other competent organisations having expertise in QMS/QTT. QCI has been assigned the task of monitoring and administering the National Quality Campaign and to oversee effective functioning of the National Information and Enquiry Services and Indian Institute of Quality Management.

3.1.4 **Mode of Operation:** By engaging National/International consultants through expert organisations like Quality Council of India & Indian Institute of Quality Management, etc., as given herein after.

### 3.1.5 FINANCING PATTERN

#### (a) Activity-wise Break-up of Expenditure

Sl.No.	Activity	Expenditure/Yr. (Amount)
1.	Conducting 4 Workshops of 2 days duration at Metros	Rs. 16 lakh
2.	Identify list of 80 trainers who will undergo the 'Train-the-Trainer' course	Rs. 2 lakh
3.	Developing master course material training kit for training of the trainers by hiring of Consultants/International experts, fee of QCI (15%) & contingency charges (5%) etc.	Rs. 85 lakh
4.	Days Training Courses for ITIs/ Polytechnics at 1,800 Institutions	Rs. 216 lakh
5.	Tracking and sourcing the best practices from the World class training institutes in the field of QMS/QTT by sending delegations consisting of faculty members from ITIs, other technical institutions and industry associations active in this field, etc. It includes International travels, stay expenses and faculty expenses (which will be incurred towards holding interactive meetings with experts of the country visited)	Rs. 100 lakh
6.	National level workshop at Delhi (It includes Rs. 5.0 lakh for the workshop and Rs. 1.0 lakh on documentation)	Rs. 6 lakh
	<b>Total</b>	<b>Rs.= 425 lakh/Yr.</b>

## (b) Budget Outlay (Rs.in lakhs/per Year)

		Gol	P
2007-08	:	10	*
2008-09 to 2011-12	:	425	*

(Gol—Government of India Contribution, P—Private Contribution)

\*This is a developmental activity focused at capacity building of Technical Institutions like ITIs and polytechnics, etc.

**Remarks:** In the year 2007-08, only part of the activity for developing few master course material kit for training of trainers will be undertaken at the cost of Rs. 10 lakh only, subject to approval of the scheme. Full scale activity will be undertaken from 2008-09 onwards as per details given above.

### 3.2 ORGANIZING AWARENESS CAMPAIGNS FOR MICRO & SMALL ENTERPRISES

3.2.1 Awareness Campaigns to sensitize Micro & Small Enterprises on Quality Management Standards/Quality Technology Tools will be undertaken all over the country in order to enable the technical and managerial officials of the micro & small industries and students from ITIs etc. to have a better understanding of the subject. Shop-floorwise campaigns are being planned in target industries all over the country.

#### 3.2.2 The Sub-activities to be undertaken are:

- Organising Countrywide Quality Orientation Campaigns for workers and staff of micro & small enterprises, and
- Session with Experts to explain Quality Technology Tools and different Quality Management Standards to Entrepreneurs and Managers from micro & small enterprises.

3.2.3 **Mode of Operation:** This activity will be carried out through expert organisation (As per details in Annexure-C) and Industry associations having sufficient expertise and who are active in this field @ Rs. 1.25 lakh per programme, 100 programmes per year will be conducted.

#### 3.2.4 Financing Pattern:

##### a) Budget Outlay (Rs in lakh/per Year)

		Gol	P
2007-08	:	NIL	NIL
2008-09 to 2011-12	:	79	46

##### Remarks:

25% & 50% of the cost will be collected from participating micro & small units respectively.

### 3.3 ORGANISING COMPETITION-WATCH (C-WATCH)

- 3.3.1 (a) The MSME sector has been receiving severe threats from mass produced or better-quality foreign goods and part of the sector has managed to survive by catering to an ever-expanding domestic market. The sector has been partially successful in fending off some of the foreign MSE products by improving its own competitiveness and quality. After liberalization and the removal of the earlier protectionist regime, Indian industry has been exposed to severe challenges of competitiveness, but nowhere it is more pronounced than the MSE sector. Large and medium Indian companies have learnt to live with liberalization and often outsource much of their production, components and sub-assemblies from other countries – on the principle that in economics, it is survival and bottomline that matter not any misplaced ‘localism’.
- (b) On the other hand, Indian micro & small enterprises, most of which are rather insular in their approach and marketing, realize the severity of foreign competition only when they are wiped off or put to really severe strain to survive. It is at this juncture that they expect their government to help them stand up to competition – which is often not quite fair.
- (c) When foreign goods started flooding the market and Indian MSEs were being adversely affected or being liquidated, the Office of the Development Commissioner (MSME) tried to respond with several innovative schemes and Programmes and other focused schemes on Technology Upgradation Support, Quality Control and Cluster Development.
- (d) While certain foreign companies carry out well-planned and very precise sectoral ‘market penetration’ strategies, the response of Indian MSMEs still continues to be ad hoc—with little signs of any coordinated approach. Under this scheme, it is intended to go in for a well-planned sectoral mapping, so as to develop specific ‘sectoral strategies’.
- (e) The C-Watch scheme is to facilitate upgradation of our manufacturing process through systematic information on product development, production technology, market trends and quality conformity essential for sustained competitiveness, against import threats.
- 3.3.2 It is proposed to develop a database on at least two products (per year) as well as to acquire samples and literature for the development of prototypes and to disseminate information to the Micro & Small Enterprises.

**The sub-activities are:**

- Systematic/Organized study on Specific Products of other competing Economies by monitoring their production centers, markets and exhibitions etc.
- Analyze Products/Designs of Competitors, procured while undertaking Technical Exposure visits, on cost sharing basis.
- Detailed Design Analysis/ Engineering.
- Prototype Development in 2 Sectors per year.

It is proposed to implement the last component in collaboration with institutions like IITs/NITs/CEERI/ TERI/IREDA/ETDC etc. The sectors and venue of the technical exposure visits will be decided by the Monitoring and Advisory Committee.

### 3.3.3 Mode of Operation

Activity 1: Conduct a 'Professional Study' on the specifics of the 'threatened product', which is to be done through a competent agency that may even make a reconnaissance, if required.

Gol Contribution: Rs. 2.5 lakh

Private Contribution: Rs. 2.5 lakh

Activity 2: Technical exposure visit by representatives of the 'threatened product', along with technical persons (not less than 10 members from different places and institutions) on cost sharing basis with 75:25 Government/Private contribution (numbers, duration, travel costs, hotel stay and other details are all part of the package).

Gol Contribution: Rs. 7.5 lakh

Private Contribution: Rs. 2.5 lakh

Activity 3: Procurement of samples and technical details.

Gol Contribution Rs. 2.5 lakh

Private Contribution: Rs. 2.5 lakh

Activity 4: Product development by technical bodies.

Gol Contribution: Rs. 5 lakh

Private Contribution: Rs. 3 lakh

Activity 5: Popularization of improved product.

Gol Contribution: Rs.1.5 lakh

Private Contribution: Rs. 0.5 lakh.

### 3.3.4 Financing Pattern

(a) Budget Outlay (Rs./lakhs/per Year):

		Gol	P
2007-08	:	NIL	NIL
2008-09 to 2011-12	:	38	22

(To cover 2 sectors per year. Transfer of funds from one activity to another may be permitted)

## 3.4 IMPLEMENTATION OF QUALITY MANAGEMENT STANDARDS AND QUALITY TECHNOLOGY TOOLS IN SELECTED MICRO & SMALL ENTERPRISES

3.4.1 As part of Competition Watch (C-Watch) strategy as described in the previous pages, it is proposed to strengthen MSEs by building competitiveness through groups of selected MSEs. 100 MSEs per year will be selected in the 'threatened products' and assisted by implementing appropriate QMS/QTT. The selection process would be through open invitation and short-listing at or after the Awareness Programmes.

### 3.4.2 The Following Sub-activities are proposed:

- Groups are to be formed from “threatened product groups which are being flooded by imports, such as Electrical/Electronics Goods, Decorative/Gift items, Festival Items, Ceramic Tiles, Articles of Iron and Steel, Paper Articles, etc.
- Diagnostic Studies are to be conducted on MSEs clusters to ascertain the appropriate QTT/QMS to be implemented.
- Introduce Quality Management Standards/Quality Technology Tools in 100 selected Micro & Small Enterprises per year for demonstration purposes through expert organisations (as per details given in Annexure-C).

### 3.4.3 Mode of Operation: 100 MSEs would be assisted @ Rs. 2.5 lakh/ unit for covering costs of Diagnostic Study and for implementation of Quality Technology Tools/Quality Management Standards in selected groups of MSEs through expert organisation/industry associations having expertise and interest.

**Remarks:** 25% & 50% of the cost will be collected from participating Micro & Small Enterprises respectively.

#### FINANCING PATTERN

##### (a) Budget Outlay (Rs. in Lakhs/per Year)

	:	GoI	P
2007-08	:	NIL	NIL
2008-09 to 2011-12	:	156	94

### 3.5 MONITORING INTERNATIONAL STUDY MISSIONS

#### 3.5.1 To appreciate in detail the Quality Management Standards and Quality Technology Tools that have been adopted by specific developed countries in specific products and enterprises, visits to quality award winning enterprises and events abroad will be undertaken by selected Indian MSEs. This will motivate the micro & small enterprises to adopt QMS/QTT. The international studies and exposure tours will be offered to eligible micro & small enterprises on cost-sharing basis and establishing of a sub-committee to constantly monitor QMS/QTT of different advance/importing countries. This will be achieved by undertaking following activities:

#### 3.5.2

- Depute one Micro & Small Enterprises Mission per year abroad for Interactive Training and Site Visits to Targeted Award Wining Organizations.
- Depute one Micro & Small Enterprises team per year to International events for first-hand study of Advanced Quality Management Systems & Tools.
- It is proposed to implement this activity in association with expert organisations, like Indian Institute of Quality Management (IIQM), QCI, NPC, etc.

- The exhibitions and organisations to be visited will be decided by the Monitoring & Advisory Committee.

3.5.3 **Mode of Operation:** Two delegations consisting of 20 members from MSEs will be taken every year to National/International Award winning Organization and International Events through expert organisations @ 2.5 lakh per MSE (As per details given in Annexure-C).

3.5.4 **Financing Pattern:**

a) **Budget Outlay (Rs.in Lakhs/per Year)**

		GoI	P
2007-08	:	NIL	NIL
2008-09 to 2011-12	:	62.5	37.5

**Remarks:**

1. 25% & 50% of the cost will be collected from participating Micro & Small units respectively.
2. 50% participation from Micro & 50% from Small Enterprises.

### 3.6 IMPACT STUDY OF THE INITIATIVES

3.6.1 It is an accepted practice that Plan, Do, Check & Act–Cycle be adopted to achieve best results. In all the schemes there will be a provision to check the performance by mid term appraisal, to review and correct the activities. In order to assess the impact of the various initiatives started under the scheme it will be necessary to conduct research studies / impact studies on the performance of the Micro & Small Enterprises.

3.6.2 **Mode of Operation:** Research studies for continuous monitoring & evaluation of the scheme, impact studies for taking corrective steps for effectiveness of the scheme, administrative cost inclusive of cost of hiring Data Entry operators & outsourcing etc.

3.6.3 **Financing Pattern:**

**Budget Outlay (Rs.in Lakhs/per Year)**

		GoI	P
2007-08	:	NIL	NIL
2008-09 to 2011-12	:	40	*

\* This component is meant for impact studies of the scheme in order to take corrective steps for effectiveness of the scheme, miscellaneous expenses like outsourcing, hiring of data entry operators, etc.

## 4.0 TARGET GROUP

4.1 The Cluster-based approach will be adopted for economy of scale, better dissemination of QMS/QTT and best results. However, individual units (preferably from specific products in

groups) may also be considered under the Scheme. Micro & small enterprises will be selected from the clusters under study or intervention by this Ministry and clusters identified by other Organizations and Ministries also. Publicity of the Scheme will be done through internet/e-mails, cluster SPVs, industry associations and where affordable, by advertisements in leading newspapers. Applications thus invited will be shortlisted and the final selection of the units will be done by the Monitoring & Advisory Committee.

## 5.0 QUALIFICATIONS REQUIRED FOR APPLYING/ELIGIBILITY

- (a) Where individual units are to be the beneficiaries, Micro & Small enterprises having Entrepreneurs Memorandum (E.M. No.) and considered eligible to take benefit under the Scheme or specific activities would be considered as in Activity No. 3.2, 3.4 and 3.5.
- (b) Wherever organizations are to be the beneficiaries they would be eligible if they are engaged in current activities for at least last 2 years and have a good track record. However, relaxation in this respect may be considered by the Monitoring and Advisory Committee in exceptional cases, as in Activity No. 3.2, 3.3, 3.4 and 3.5.
- (c) The applicant organisation should have regular audited accounts for the past 2 years.
- (d) All attempts will be taken to ensure that 50% of the enterprises are selected from micro sector and 50% from small sector. However, spillover from one sector to another may be considered, if sufficient numbers of enterprises are not available in a particular sector and funds permit.

### Other Conditions

- (e) Financial assistance to any one organisation or association would normally be restricted to two events in a financial year, unless it has active state or regional chapters or hubs. The Committee may, however, recommend relaxation of this condition for reasons to be recorded.
- (f) For the same event, not more than one organisation shall normally be sponsored unless it has active state or regional chapters or hubs.
- (g) All publicity material, banners and reports relating to the event should indicate the support of the Ministry.
- (h) The Ministry may be represented in the delegation if it has an appropriate technical and active relation with the product/ sector and it helps 'anchoring' of the information/ knowledge.
- (i) Any such other qualification that specific activity may require.

## 5.1 SELECTION PROCEDURE

- (a) All Micro & Small Enterprises meeting the criteria laid down ( As described under Point No. 5) will be eligible to take benefit under the scheme.
- (b) The final selection of the clusters/Micro & Small Enterprises will be done by the Monitoring and Advisory Committee.



## 6.0 IMPLEMENTING AGENCIES

- 6.1 The Scheme will be implemented through office of the Development Commissioner (MSME) by involving expert Organisations or by using in-house expertise wherever available. The Expert Institutions/Organizations (As per details given in Annexure-C) may be engaged in the implementation of the Scheme.

## 7.0 DOCUMENTS THAT HAVE TO BE ENCLOSED WITH APPLICATION

All eligible Micro & Small Enterprises should submit their Application in the prescribed Proforma (Annexure-A) along with following documents:

- (a) An undertaking to contribute 25% or 50% of the total cost as applicable to the unit, wherever applicable. In case if any indirect investment is required, the beneficiary units would take care of it.
- (b) An undertaking / Affidavit that similar benefits have not been obtained from any other Government sponsored schemes.

## 8.0 PROCEDURE FOR RELEASE OF FUNDS

- (i) The funds will be released to the expert organisations activity wise (As per details in Annexure-C) in the phased manner for the specific activity.
- (ii) Contribution of 25% from Micro units and 50% from Small units will be collected by Office of DC(MSME) / or the implementing agencies wherever applicable.
- (iii) The implementing agency will submit the fund utilization certificate along with the detailed report about the component.

## 9.0 MONITORING AND ADVISORY COMMITTEE

It is proposed that a Monitoring and Advisory Committee will be formed with members drawn from the following organisations for monitoring the progress of the scheme under the Chairmanship of Development Commissioner (MSME) or an Additional Development Commissioner/Joint Secretary; ranking official.

1. Representative of NMCC.
2. An expert from Quality Council of India
3. An expert from National Productivity Council.
4. Representatives of appropriate Industry Associations.
5. Representative of Director General of Employment & Training (DGET)
6. Representation from STQC (a Society under Ministry of Information Technology)
7. Representative of Internal Finance Wing.
8. Industrial Advisor, Additional Industrial Advisor or Senior Director, Office of the Development Commissioner (MSME).

## APPLICATION FORMAT

Application for the Scheme \_\_\_\_\_

Name and Address of the Unit  
[Office & Factory Location(s).]

Details of E.M. No. ;  
Date of issue; Directorate of Industries/  
GM, DIC of the State concerned  
(Enclosed an attested copy of all pages  
Of SSI Registration Certificate )

Item(s) of Manufacture /Processing  
as indicated in the E.M. Certificate.

Proof of SSI Status and Functional Status of the Unit as on the Date of Submission of Application.  
The following document(s) to be submitted:

A Certificate (in original) from State DI/GM, DIC confirming Micro/Small unit and functional status as on date.

OR

Certificate for C.A.

## DECLARATION

I ( full name ) .....  
S/o of .....Managing Director/Director/ Proprietor/Partner of M/s. ....  
(complete address) hereby declare That the particulars given in the application are correct. In case any of the Statement/information furnished in the application/documents later found to be wrong or correct or misleading, I do hereby bind myself and my unit to pay to the Government on demand the full amount of subsidy in respect of above mentioned activity within seven days of the demand being made to me in writing. The relevant documents are enclosed with the application.

Name and Signature of Managing Director/

Director/Proprietor/Partner of Small/Micro Unit

(Full Name)

Widely accepted Quality Management Standards and Quality Technology Tools commonly in Use :-

### Quality Management Standards

#### (1) ISO 9001

International standard for quality management, suitable for any business. Implementation involves evidence of best management practice, including health & safety performance and a commitment to continuous training and development for all staff.

'Traditionally, organisations have always measured performance in some way through financial performance. However, performance based on cost accounting information provides little to support organisations on their quality journey, because they do not map process performance and improvements seen by the customer'.

#### (2) ISO 14001

International Standard for an Environmental Management System (EMS), which involves regulatory compliance and ideally waste minimization, reduced environmental impact and reduced costs. Implementation involves everyone in the company and all aspects of its processes and products that may impact on the environment.

#### (3) ISO 18001

International specification for Occupational Health and Safety Management System(OHSAS), are a set of co-ordinated and integrated process, that enable a company or an organization to be able to control the health and safety issues in an uniform and effective manner. This is suitable for any size and kind of organization.

#### (4) ISO 22000

ISO 22000:2005 specifies requirements for a food safety management system where an organization in the food chain needs to demonstrate its ability to control food safety hazards in order to ensure that food is safe at the time of human consumption. It is applicable to all organizations, regardless of size, which are involved in any aspect of the food chain and want to implement systems that consistently provide safe products. The means of meeting any requirements of ISO 22000:2005 can be accomplished through the use of internal and/or external resources. ISO 22000:2005 specifies requirements to enable an organization:

- (a) to plan, implement, operate, maintain and update a food safety management system aimed at providing products that, according to their intended use, are safe for the consumer,
- (b) to demonstrate compliance with applicable statutory and regulatory food safety requirements,
- (c) to evaluate and assess customer requirements and demonstrate conformity with those mutually agreed customer requirements that relate to food safety, in order to enhance customer satisfaction,

- (d) to effectively communicate food safety issues to their suppliers, customers and relevant interested parties in the food chain,
- (e) to ensure that the organization conforms to its stated food safety policy,
- (f) to demonstrate such conformity to relevant interested parties, and
- (g) to seek certification or registration of its food safety management system by an external organization, or make a self-assessment or self-declaration of conformity to ISO 22000:2005.

#### (5) ISO :27001

Information security is a complex area, demanding standards to address specific aspects. These are currently addressed by ISO 17799 and the emerging ISO 27001. ISO 17799 is a code of practice for information security. It details hundreds of specific controls which may be applied to secure information and related assets. It comprises 115 pages organized over 15 major sections.

ISO 27001 is a specification for an Information Security Management System, sometimes abbreviated to ISMS. It is the foundation for third party audit and certification. It comprises 34 pages over 8 major sections.

Both standards are intended to apply to all organizations, whether commercial or otherwise, and should assist anyone with responsibility for managing information security.

### Quality Technology Tools

- (1) **6–Sigmas** It is a rigorous and disciplined methodology that uses data and statistical analysis to measure and improve an operational performance by identifying and eliminating “defects” in manufacturing and service-related processes, limiting the defects to 3.4 defects per million samples.

- (2) **Total Productive Maintenance (TPM)**

TPM involves operators, maintenance staff and management working together to improve the overall operation of any equipment. Operators should be the first to identify noisy or vibrating motors, oil or air leaks. They can be trained to make many simple repairs to prevent major and costly breakdowns. Keeping an Overall Equipment Effectiveness (OEE) record can help to monitor performance reduction. These reports monitor three key areas – availability, performance and quality of output.

- (3) **7 Quality Control Tools**

7 QC tools listed below also known as ISHIKAWAS 7QC tools which revolutionized the Japan & the World:

- Histograms
- Cause and Effect Diagram
- Check Sheets
- Pareto Diagrams

Graphs  
Control Charts  
Scatter Diagrams

#### (4) 5S System

The 5S System is a workplace organization method using simple common sense methods. This is often the first step in applying Lean Techniques since it helps in getting the 'junk' out of the work area and set procedures to keep it that way. 5S stand for Sort, Set in Order, Shine, Standardize and Sustain. These simply mean:

**Sort (SERI)** – To remove all unneeded items out of the work area and cleaning to improve morale and safety.

**Set in Order (SETTON)** – This implies establishing and marking place / home for all needed items. Place has to be identified for all Tools and Accessories close to the point of use.

**Shine (SESIPO)** – This means cleaning machines, equipment and work areas well enough for an inspection.

**Standardise (SEIKETSU)** – This involves creating standard operating procedures for all activities whether it is operating or maintaining a machine or even an office activity.

**Sustain (SHITSUKE)** – The success of the 5S System depends on maintaining it as an ongoing activity. Hence suitable rewards and recognition should be given to those complying with the above directives.

#### (5) Kaizen Tools

**Rapid Improvement Process or Kaizen Blitz** – RIP or Kaizen Blitz is an intense management program, lasting about five days, which results in immediate change and bottom-line improvements. Both management staff and workers are involved. Example of a RIP Schedule can run as follows:

- Lean Training and investigation
- Data gathering and measurement
- Identifying possibilities and start changes
- Continue changes and run trials
- SOPs and Report the benefits

#### (6) TQM

**Total Quality Management** – TQM is an enhancement to the traditional way of doing business. It is a proven technique to guarantee survival in world-class competition. Only by changing the actions of management will the culture and actions of an entire organization be transformed. TQM is for the most part common sense. Analyzing the three words, we have

**Total** – Made up of the whole.

**Quality** – Degree of excellence a product or service provides.

**Management** – Act or manner of handling, controlling, directing, etc. Therefore, TQM is the art of managing the whole to achieve excellence. The Golden Rule is a simple but effective way to explain it: Do unto others as you would have them do unto you.

TQM is defined as both a philosophy and a set of guiding principles that represent the foundation of a continuously improving organization. It is the application of quantitative methods and human resources to improve all the processes within an organization and exceed customer needs now and in the future. TQM integrates fundamental management techniques, existing improvement efforts, and technical tools under a disciplined approach.

TQM requires six basic concepts:

1. A committed and involved management to provide long-term top-to-bottom organizational support.
2. An unwavering focus on the customer, both internally and externally.
3. Effective involvement and utilization of the entire workforce.
4. Continuous improvement of the business and production process.
5. Treating suppliers as partners.
6. Establish performance measures for the processes.

It has been gathered that by implementing Quality Technology Tools like 6–Sigma, TQM, TPM in certain sectors / group of industries of small and medium sizes, the performance of the industries have improved tremendously in terms of productivity (improvement by 50 to 100 per cent in one year), **improvement in quality** (up to PPM level), rejections and customers complaints have come down (by 50 per cent in one-to one-and-half years durations). It is the need for the SMEs to adopt the best manufacturing practices to enable them to be competitive in the current scenario of global competition. A government initiative is required if India has to become a major manufacturing hub of the world. Some of the countries that have become manufacturing giants, like China and Taiwan have been actively supporting industries to enable them to adopt these Quality Management Standards and Quality Technology Tools and become competitive. Some of the Pilot Projects executed by ASSOCHAM, CII and others on the ancillaries of the big industrial giants in the engineering and auto sector have demonstrated that there has been considerable improvement in the quality of the products, reduction in customer complaints and rejections leading to overall improvement in business/financial performance.

## LIST OF EXPERT ORGANISATIONS

- Quality Council of India and National Recruitment Board for Personnel and Training.
- Consultancy Development Corporation.
- National Productivity Council.
- Standardization Testing & Quality Certification (STQC, a Society under Ministry of IT).
- IIQM (India Institute of Quality Management).
- Industry Associations that have taken active interest in QMS/ QTT.
- Technical Institutions, Engineering Colleges, Tool rooms and similar bodies. etc.









**MSME**

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