## **GOVT. OF NCT OF DELHI**



# OF TOOL ROOM & TRAINING CENTRE, DELHI

**OCTOBER - 2006** 

PLANNING DEPARTMENT
(EVALUATION UNIT)
GOVT. OF NATIONAL CAPITAL TERRITORY OF DELHI
6<sup>TH</sup> LEVEL, B-WING, DELHI SECRETARIAT
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#### **CHAPTER-I**

#### 1. INTRODUCTION

Tool Room (TR) is the industrial set-up where the specialized tools, dies, moulds, jigs, fixtures are designed and manufactured. These tools are used for mass production. Many companies have their own captive TR or they assign the work to the professionally managed TRs.

The workflow starts in the Tool Room once it receives the Product Model or the Product Design / Drawing. Before accepting the model, the TR professionals check the manufacturing feasibility of the Tool for the product.

#### 2. OBJECTIVE OF THE STUDY

- 1) Whether the objectives for which the Tool Room and Training Centre (TRTC) at Wazirpur and its Sub-Centre at Okhla have been setup by Delhi Govt., are being achieved.
- 2) Financial viability of the scheme.
- 3) Suggestion for improvement of the scheme.

#### 3. <u>METHODOLOGY</u>

For understanding various issues relating to the scheme, necessary information has been collected from the TRTC and also personnel visits / interactions have been made by the officers / staff of the Evaluation Unit of the Planning Department with the concerned officer/staff/ students of TRTC at Wazirpur and its Sub-Centre, at Okhla.

The Pr. Secretary (Finance / Planning), Delhi Govt. also visited the TRTC at Wazirpur and its Sub-Centre at Okhla on 16.09.2006 with the Officers of Planning and Industries Deptts. of Delhi Govt.

#### 4. TOOL ROOM AND TRAINING CENTRE (TRTC), WAZIRPUR

Tool Room & Training Centre (TRTC) at Wazirpur Industrial Area, Delhi was established in the year 1976 under a technical and economic agreement entered into between the Govt of India and the Govt of Denmark. This Centre was set up with the primary objective of contributing towards the development of Small Scale Industries (SSI) in and around Delhi through supply of skilled manpower and sophisticated tools (viz Moulds, Press Tools, Gigs, Fixtures, Gauges etc.).

The large majority of the small-scale industries in Delhi are traditional and low tech in nature. In view of the constraints of availability of the land, water, power and the need to reduce pollution, congestion etc., there is a general consensus in favour of allowing only sophisticated and hi-tech industries in Delhi which put minimum strain on the scarce resources. At the same time, industries should be non polluting and less dependant on unskilled manpower, thus arresting the rate of migration of unskilled labour. The TRTC has, therefore, emerged a pioneer in its efforts to create an indigenous technical base suitable to the needs of the industry, particularly in case of Small Scale Industries (SSI).

The TRTC is a Society registered under Societies Registration Act, 1860 and is functioning under the administrative control of Department of Industries, Govt. of NCT of Delhi. The Secretary–cum-Commissioner (Industries), Govt. of NCT of Delhi is the Ex-officio Chairman of TRTC.

#### 5. GOVERNING COUNCIL OF TRTC

The Governing Council is the highest decision taking body regarding different important matters pertaining to the Tool Room & Training Centre. The present constitution of the Governing Council is as follows:

**Chairman** - Secretary & Commissioner of Industries, Govt. of NCT of Delhi

#### Members -

- Sh. Vinay Sharma
   Member-Legislative Assembly, Delhi
- Director dealing with Delhi Affairs in the Ministry of Industry, Govt. of India
- 3. Director (TRTC)
  Office of the Development Commissioner (SSI)
  Govt. of India
- 4. Additional Secretary (Finance)
  Govt. of NCT of Delhi
- 5. Chairman (DSIDC) or his / her Nominee
- 6. Additional / Joint Commissioner of Industries Looking after TRTC in Industries Deptt.
- 7. Director (Technical Education)
  Govt. of NCT of Delhi or his / her Nominee
- 8. Principal, Delhi College of Engineering Or his / her Nominee
- 9. Shri Tulsi Nandan Kant Bansal AK-97, Shalimar Bagh, Delhi-88
- Shri Pankaj Kumar Singhal
   84, Anand Vihar, Pitampura, Delhi-34

**Member Secretary** - General Manager, TRTC, Delhi

#### 6. ACTIVITIES OF TRTC

The TRTC concentrates on two vital fields:

- 1. Training of manpower
- 2. Manufacturing of tools

#### **6.1 TRAINING OF MANPOWER BY TRTC**

The Training Centre of TRTC endeavors to impart the highest degree of skills through job oriented training to the youth covering all aspects of Tooling and co-related activities, thereby creating a qualitative manpower base to support the rapidly growing industrial sector in the country. The Centre has carefully structured its training programs to develop a healthy industrial culture and

sound work habits in its trainees. Due emphasis is given by it to practical training. Its aim is to develop high skilled Tool Designer/Tool Makers to contribute in the development of the Indian industry. Modern technology such as, Computer Aided Manufacturing (CAM)/ Computer Aided Designing (CAD)/ Computer Aided Engineering (CAE), Computer programming etc are also part of its training curriculum.

The following are some important training courses being conducted by the TRTC alongwith their duration, eligibility for the course, number of seats, course fee etc:

Table - 1

| S. No. | Name of<br>Course  | Dura-<br>tion | Min. Qualification for entry                                   | Recognizing<br>Body                | Admission<br>Procedure  | No. of Seats<br>(Per Year)   | Course Fee  | Exami-<br>nation<br>Pattern                            | Enrollment<br>New<br>admn. in<br>2006-07 |
|--------|--|---------------|--|------------------------------------|---|--|---|--|--|
| 1      | P.G. Course in<br>Tool Design &<br>Manufacturing<br>[(equivalent to<br>M.Tech (Prod)]* | 2 years       | B.Tech.<br>(Mech/ Prod.)                                       | Ministry of<br>H.R.D.              | Through<br>Entrance Test<br>on all India basis<br>conducted by<br>TRTC    | 20 (10 Seats<br>are regular<br>and 10 Seats<br>are for<br>Industry<br>sponsored<br>candidates) | Rs.20,000/- (for<br>free seats) &<br>Rs.48,000/- (for<br>sponsored<br>seats)                            | Semester<br>System by<br>TRTC                          | 18<br>(Ist Year)                         |
| 2      | Diploma in Tool<br>& Die Making  | 4-years       | Passed in 10 <sup>th</sup><br>Class                            | Board of<br>Technical<br>Education | Entrance Test<br>conducted by<br>the Dte. of Tr. &<br>Tech. Edn.<br>GNCTD | 60   | Rs.6000/- Per<br>Semester. G.C.<br>has revised the<br>fee at<br>Rs.10000/- Per<br>Semester from<br>2007 | Semester<br>System by<br>the Board<br>of Tech.<br>Edn. | 60<br>(Ist Year)                         |
| 3      | Advanced Tech.<br>Course in Tool<br>Room Machine<br>Operator                           | 1-year        | ITI Passed   | TRTC                               | Through<br>Entrance Test<br>conducted by<br>TRTC                          | 24   | Rs.3000/- for Six<br>Months   | Yearly<br>Pattern by<br>TRTC                           | 35                                       |
| 4      | Advanced Tech.<br>Course in Tool<br>Room & Die<br>Fitters                              | 1-year        | ITI Passed   | TRTC                               | - do -  | 20   | Rs.3000/- for Six<br>Months   | Yearly<br>Pattern by<br>TRTC                           | 35                                       |
| 5      | Condensed<br>Course in Tool &<br>Die Making  | 1-year        | 10 <sup>th</sup> Passed<br>with Maths &<br>Science             | TRTC                               | Through<br>Entrance Test<br>conducted by<br>TRTC                          | 12 in May &<br>12 in Nov.  | Rs.25,000/- Per<br>Semester   | Semester<br>System by<br>TRTC                          | 17                                       |
| 6      | Certificate<br>Course in<br>Computer<br>Programming                                    | 1-year        | Graduate or<br>Diploma in<br>Engg. or 12 <sup>th</sup><br>Pass | TRTC                               | Interview<br>conducted by<br>TRTC   | 140 (4<br>batches of 35<br>students per<br>batch)  | Rs.13,000/- @<br>Rs.3250/- Per<br>Module  | Semester<br>System by<br>TRTC                          | 12                                       |

<sup>\*</sup> From August, 2006 this training course is being organized in the Sub-Centre of TRTC at Okhla.

Besides above the TRTC also conducts the following short term introductory / refresher courses:

- Press tool technology
- Mould technology
- Pressure die casting
- CNC courses in programming & milling, turning, wire EDM
- Jigs & fixtures
- Mould polishing & mould maintenance electrode manufacturing & spark erosion technology
- EDM/CNC wire EDM
- CNC programming & CNC milling operating
- Tool room machine practice
- Tool Manufacturing Techniques
- Injection moulding machine operation
- Inspection techniques

# 6.2 NUMBER OF PASSED OUTS UNDER VARIOUS TRAINING PROGRAMMES OF TRTC

The following tables indicates the number of persons trained in various courses / training programme being conducted by TRTC during 2001-02 to 2005-06:-

<u>Table – 2</u>

| S.No. | Name of Course   | 2001-<br>02 | 2002-<br>03 | 2003-<br>04 | 2004-<br>05 | 2005-<br>06 |
|-------|--|-------------|-------------|-------------|-------------|-------------|
| A     | Long Term / Regular Courses  |             |             |             |             |             |
| 1     | 2 Years PG Course in Tool Design and Manufacturing *                         | 12          | 15          | 11          | 9           | 12          |
| 2     | 4 Years Diploma Course in Tool & Die<br>Making                               | 30          | 29          | 25          | 26          | 28          |
| 3     | 1 Year Advanced Technician Course<br>in Tool Room Machine Operator<br>(TRMO) | 18          | 16          | 16          | 19          | 31          |
| 4     | 1 Year Advanced Technician Course in Tool Room Dye Fitter (TRDF)             |             |             |             |             |             |
| 5     | 1 Year Condensed Course in Tool & Die Making                                 | 22          | 15          | 15          | 16          | 18          |
| 6     | 1 Year Certificate Course in Computer Programming                            | 38          | 27          | 41          | 20          | 8           |
| В     | Short Term Courses / Training  |             |             |             |             |             |
| 7     | Prime Minister's Rojgar Yojana (PMRY)  | 431         | 353         | 300         | 293         | 200         |
| 8     | Short Term Courses   | 66          | 77          | 62          | 64          | 29          |
| 9     | Summer Training  | -           | 1           | 26          | 31          | 33          |
|       |  |             |             |             |             |             |

\* This course in now being conducted at the Sub-Centre of TRTC at Okhla from August, 2006

#### 6.3 PLACEMENT OPPORTUNITIES OF THE TRAINEES UNDER TRTC

The following is the position of placement of passed outs in different regular courses being conducted by TRTC during 2005-06:

<u>Table – 3</u>

| S.<br>No | Name of Course  | Total<br>Passed<br>Out | Placement                            | Remarks   |
|----------|---|------------------------|--------------------------------------|---|
| 1        | 2 Years PG Course in Tool<br>Design and Manufacturing   | 12                     | 12                                   |   |
| 2        | 4 Year Diploma Course in Tool & Die Making  | 28                     | 28                                   | -   |
| 4        | 1 Year Advanced Technician Course in Tool Room Machine Operator (TRMO) 1 Year Advanced Technician Course in Tool Room Dye Fitter (TRDF) | 31                     | 31                                   | -   |
| 5        | 1 Year Condensed Course in Tool & Die Making  | 18                     | -                                    | Mostly entrepreneurs do this course and they utilize the skill in the development of their own enterprises. |
| 6        | 1 Year Certificate Course in<br>Computer Programming  | 8                      | Track record<br>is not<br>maintained |   |

There is 100% placement opportunities to the passed outs of TRTC under its all long term / regular courses, except for the training under one year certificate course in computer programming.

#### 6.4 MANUFACTURING OF TOOLS BY TRTC

The Tool Room provides comprehensive and integrated facilities of designing, process planning, tool manufacturing, tool development & testing and production of components. Tooling is vital to manufacturing industry. All industry small, medium and large, whether they are foundry, forging, plastic, metal cutting, sheet metal forming etc need tools and that too before the start of actual production activity. Tools are basic production aids, used for the

production of parts and for increasing quality and productivity. Many projects are delayed for non-availability of tools in time. Therefore, the lead-time in tool making is a vital factor in getting a product in time in the market.

The TRTC is giving 12.5% discount to small-scale industries for completed tools since 1983-84. Even the Finance Ministry Govt of India waived off the excise duty for all goods manufactured by TRTC, Delhi. This has helped the small scale industries in bringing down their manufacturing cost of components.

#### 6.5 COMPLIANCE OF WORK/JOB ORDERS BY TRTC

The position of compliance of work order and job order by TRTC in time during 2004-05 and 2005-06 is as follows:

<u>Table – 4</u>

| S.  | Year    | Work Order |           |            |          | Job Order |            |
|-----|---------|------------|-----------|------------|----------|-----------|------------|
| No. |         | No. of     | No. of    | No. of     | No. of   | No. of    | No. of     |
|     |         | orders     | orders    | orders not | orders   | orders    | orders not |
|     |         | received   | completed | completed  | received | completed | completed  |
|     |         |            | in time   | in time    |          | in time   | in time    |
| 1   | 2004-05 | 44         | 6         | 38         | 48       | 21        | 27         |
|     |         |            | (13.6%)   | (86.4%)    |          | (43.7%)   | (56.3%)    |
| 2   | 2005-06 | 26         | 0         | 26         | 36       | 13        | 23         |
|     |         |            | (0%)      | (100%)     |          | (36.1%)   | (63.9%     |
|     |         |            |           |            |          |           |            |

Here it is mentioned that there is slight difference between work order and job order. In case of the former, the TRTC itself has to arrange for the raw-materials and finalize the product as per the demand of the consumer/party, while in case of the later, the TRTC is responsible only for the finalization of the product according to the demand, because the raw materials are provided by the party its-self.

It may be seen from the above table that the TRTC's performance for completion of work order within the given time limit was 13.6% in 2004-05 and it could not complete any work order in time during 2005-06. Further, it could complete 43.7% of job order in 2004-05 and 36.1% of job orders in 2005-06, in time. Thus, its performance for compliance of work orders in time

was very poor which was mainly due to procedural delay in procurement of raw materials required for such work. In view of dismal performance in compliance of work / job orders, it is loosing the customers confidence and hence, sustaining the revenue loss. Much improvement is, therefore, necessary in this sector which calls for better management, creation of work culture among the staff, replacement / repairment of old machines, proper publicity about the services being provided by it, building confidence among the present and prospective users of its services etc.

#### 7. ESTEEMED CUSTOMERS OF TRTC

The following industries and institutions deal with the Tool Room & Training Centre as and when they require trained personnels / tools etc:

| _ |                     |   |
|---|---------------------|---|
|   | Maruti Udyog Ltd.   | Moser Baer                                  |
|   | Whirlpool Ltd.      | <ul> <li>Steel Strips Wheels</li> </ul>     |
|   | ESCORTS Ltd.        | <ul> <li>Yamaha Motor India Ltd.</li> </ul> |
|   | Cabriel India Ltd.  | • I.I.T.                                    |
|   | Balmer Lawrie       | <ul> <li>Laxmi Precision Screws</li> </ul>  |
|   | Danex International | Kiran Udyog                                 |

Delhi Transport Corporation (DTC)

#### 8. SUB CENTRE OF TRTC AT OKHLA

Suzuki Metal

A Sub-Centre of TRTC was established in the building of Hi-Tech Vocational Training Centre (HTVTC) at Okhla Industrial Area, Phase-II, Delhi in 2000 as a Centre of excellence for imparting training in the field of Computer Aided Design (CAD)/Computer Aided Manufacturing (CAM) / Computer Aided Engineering (CAE) relating to tool engineering to the students of various engineering colleges, working professionals of Corporate Houses, staff and students of TRTC etc.

#### 8.1 COURSES AVAILABLE IN SUB-CENTRE OF TRTC

The Centre has come up as an important Centre for small scale industries. Considering the new technology in the field of Computer Aided Design (CAD)/ Computer Aided Manufacturing (CAM), the Centre organizes following short term / part time courses which are in great demand.

- a) Advanced Diploma in Computer Aided Tool Engineering-I-DEAS (CAD/CAM)
   & Tool Design.
- b) Certificate Course in Computer Aided Tool Design.
- c) I-DEAS Modeling, Machining & Mould Flow.
- d) Auto CAD & Mech. Desk Top (MDT).
- e) Master CAM.
- f) Solid Works.
- g) I-DEAS Drafting & Modelling.
- h) I-DEAS Drafting, Modelling & Machining.

## 8.2 NUMBER OF PASSED OUTS UNDER VARIOUS TRAINING PROGRAMMES OF SUB-CENTRE OF TRTC

The following table indicates the number of passed outs under important training programmes being conducted by the sub-centre of TRTC at Okhla.

<u>Table – 5</u>

| S.  | Course name   | Eligibility for the course  | Course fee | No. of studen | ts passed out |
|-----|---|---|------------|---------------|---------------|
| No. |   |   | (Rs.)      | 2004-05       | 2005-06       |
| 1   | Advance Diploma in<br>Computer Aided<br>Tool Engg. (480<br>Hrs. course)     | BE/Diploma in Mech./<br>Prodn. Engg. / Plastic<br>Techno / Tools Dye<br>making                      | 48,000     | 17            | 15            |
| 2   | Certificate course in<br>Computer Aided<br>Tool Design<br>(480 Hrs. Course) | ITI in Draughtsman /<br>Machinery / Fitting   | 24,000     | 4             | 4             |
| 3   | Auto Cad & MDT<br>(60 Hrs. Course)  | BE / Diploma / ITI – Passed out or enrolled in these courses can join- in all above said branches   | 6,500      | 69            | 49            |
| 4   | Auto Cad<br>(40 Hr. Course)   | BE / Diploma /ITI – Passed out or enrolled in the above said branched and civil electrical branches | 4,000      | 12            | 14            |

Above training programmes develop the skills of the trainees further particularly in computer aided designing / manufacturing which help them in getting better placement.

#### 9. STAFF POSITION IN TRTC & ITS SUB-CENTRE

Details of sanctioned/existing /vacant posts in TRTC & its Sub-Centre as on 31.08.2006 are as under:-

<u>Table – 6</u>

| S.<br>No | Nomenclature of Post  | Scale of Pay  | Sanction ed Post | Filled<br>Post | Vacant<br>Post |
|----------|---|---------------|------------------|----------------|----------------|
| 1        | General Manager/OSD   | 16400-20000/- | 2                | -              | 2              |
| 2        | Dy. General Manager   | 14300-18300/- | 2                | -              | 2              |
| 3        | Manager/Secretary   | 12000-18000/- | 6                | 1              | 5              |
| 4        | Dy. Manager   | 10000-15200/- | 11               | 3              | 8              |
| 5        | Asstt. Manager  | 8000-13500/-  | 22               | 5              | 17             |
| 6        | Admn. Officer/Trg. Officer /Sr. Foreman/ System Analyst/ Design Engr. | 6500-10500/-  | 13               | 9              | 4              |
| 7        | Forman/ Instructor/L.T./ J.D. Engr./<br>Development Officer           | 6500-9000/-   | 44               | 29             | 15             |
| 8        | Technician Gr. I  | 4500-7000/-   | 26               | 14             | 12             |
| 9        | Librarian   | 4500-7000/-   | 1                | 1              | 0              |
| 10       | Tech. Gr.II & III   | 4000-6000/-   | 41               | 26             | 15             |
| 11       | Tech. Gr. IV  | 3050-4590/-   | 30               | 9              | 21             |
| 12       | Tech. Gr. V   | 2650-4000/-   | 23               | 0              | 23             |
| 13       | Executive Asstt.  | 5500-9000/-   | 2                | 2              | 0              |
| 14       | Asstt. Gr. I/PS   | 5000-8000/-   | 9                | 7              | 2              |
| 15       | Asstt. Gr. II & III/ Computer<br>Programmer Sr. Driver                | 4000-6000/-   | 20               | 12             | 8              |
| 16       | Asstt. Gr. IV/Driver/Head<br>Watchment                                | 3050-4590/-   | 12               | 7              | 5              |
| 17       | Security guards/ mali/<br>sweeper/Peon                                | 2550-3200/-   | 18               | 13             | 5              |
|          | Total   |               | 282              | 138            | 144            |

It may be seen that more than 50 % of the sanctioned posts are left vacant in TRTC and its Sub-Centre

#### 10. FINANCIAL POSITION OF TRTC & ITS SUB-CENTRE

The details of the income & expenditure of the TRTC and its Sub-Centre for the years 2002-03 to 2005-06 are as under:

<u> Table – 7</u>

(Rs. in lakh)

|           |  | Year    |          |          |                                  |  |  |
|-----------|--|---------|----------|----------|----------------------------------|--|--|
| S.<br>No. | Items  | 2002-03 | 2003-04  | 2004-05  | 2005-06<br>(Revised<br>Estimate) |  |  |
| 1         | Income   |         |          |          | -                                |  |  |
| 1.1       | Training   | 47.16   | 46.22    | 51.59    | 63.75                            |  |  |
| 1.2       | Invoicing (Sale-Bill)                            | 67.72   | 58.54    | 53.56    | 60.00                            |  |  |
| 1.3       | Others   | 1.00    | 1.03     | 1.10     | 3.15                             |  |  |
|           | Total (1)  | 115.88  | 105.79   | 106.25   | 126.90                           |  |  |
| 2         | Expenditure                                      |         |          |          |                                  |  |  |
| 2.1       | Staff Salary                                     | 254.18  | 267.00   | 300.80   | 321.90                           |  |  |
| 2.2       | Office expenses                                  | 0.49    | 0.72     | 1.68     | 1.50                             |  |  |
| 2.3       | Cost of machinery                                | 0.61    | 1.21     | 1.04     | 2.00                             |  |  |
| 2.4       | Any Other  | 64.82   | 68.38    | 50.98    | 49.50                            |  |  |
|           | Total (2)  | 320.10  | 337.31   | 354.50   | 374.90                           |  |  |
| 3         | Surplus (+)/Deficit (-)<br>(1-2)                 | -204.22 | -231.52  | -248.25  | -248.00                          |  |  |
| 4         | Recurring Grant-in-aid from Govt.                | 204.22  | 231.50   | 248.15   | 225.00                           |  |  |
| 5         | Un-covered deficit after grant in aid from Govt. | 0       | (-) 0.02 | (-) 0.10 | (-) 23.00                        |  |  |

From the analysis of Income & Expenditure pattern, it reveals that the main component of expenditure of TRTC and its Sub-Centre is "Staff Salary" which increased from Rs.254.18 lakhs in 2002-03 to Rs.321.90 lakhs in 2005-06 (RE). On the other hand their income from training, invoicing and other sources was only Rs.115.88 lakhs in 2002-03 which reduced to Rs.105.79 lakh in 2003-04 and remained almost at the same level of Rs.106.25 lakh in 2004-05 and thereafter slightly increased to Rs.126.90 lakh in 2005-06 (RE). Obviously, the Centre is not able to meet out even the expenditure on staff salary without Grant-in-aid from the Govt.

#### 11. HIGH-TECH VOCATIONAL TRAINING CENTRE (HTVTC)

The High Tech Vocational Training Centre (H.T.V.T.C.) was setup in 1989 by the Government of India in collaboration with the Govt. of Italy within the ambit of the Indo-Italian Technical Co-operation agreement. The HTVTC is functioning as a society under the Societies Registration Act-1860 at Okhla Industrial Area, Phase-II, Delhi. The HTVTC covers an area of about 5.5 acres. The management of the society is vested in the Governing Council with Secretary & Commissioner of Industries as its Chairman. The General Manger is looking after the day to day functioning of the Centre.

The Centre was established with the basic twin objectives of (i) Training / consultancy in High-Tech areas and (ii) Production of sophisticated engineering items on CNC machine. Its main aim has been development of small and medium scale industries in and around Delhi through supply of skilled manpower in diverse areas such as CNC machine, CAD/CAM, PLCs, Micro-process system, Computer based measurement and control etc. High and sophisticated technology was transferred by the Italy Govt. to the Govt. of India which aims at improving technologies in the Machine Tools Sector, besides providing facilities for training of manpower to respond to the ever changing needs of Indian Industry and favouring to keep pace with rapid technological advancement in the Hi-Tech Sector.

The present financial status of the Centre is that it is not financially self sustainable and meeting its working deficit with the recurring grant from the Delhi Govt.

#### 11.1 TRAINING COURSES OF HTVTC

The following Training courses are being conducted in HTVTC.

- 1) Programmable Logic Controllers (2 Modules of One week each)
- 2) Programmable Logic Controllers (2 Modules of Two week each)
- 3) Microprocessor and its application
- 4) Motor Drives and Controls

- 5) Electrical Control Circuits
- Programming & Operation of CNC Machine Tools (With introduction of CAD/CAM- Unigraphics & CMM)
- 7) Automation with Pneumatics & Hydraulics
- 8) CAD/CAM (Unigraphics with practical training of CAM on CNC Machines and introduction to CMM & Surface scanning Renishaw with Tracecut package)
- 9) Reverse Engineering using Computer controlled 3-D Co-ordinate Measuring Techniques
- 10) Introduction to ISO Programming & Operation of CNC Machines.

#### 12. STRATEGIC ALLIANCE OF TRTC AND HTVTC

During the field visit of TRTC at Wazirpur and its Sub-Centre at Okhla Industrial Area, Ph-II, made by Pr. Secretary (Finance/Planning) with the Officers from Planning Department and Industries Department, Delhi Govt. on 16.09.2006 it was observed that there is much similarity in the services being rendered by the TRTC and the HTVTC. It was also observed that they come under the administrative control of Commissioner (Industries). Thus, the networking of the facilities and other resources available in these centres may enable to cater to a wide industrial market in and around Delhi. Further, the facilities like CAD/CAM, CMM coping machine etc. could also be conveniently linked via a wide area network and the training programmes can be designed for complementing the faculty skills available at these two centres.

Accordingly, its was felt that the TRTC and the HTVTC may be merged together to create a single society namely the Delhi Institute of Tool Engineering Society (DITES). Within this intergrated Unit, the HTVTC may act as a distinct Centre. This will simplify the work of Commissioner (Industries) and his office by avoiding the need for separate budgeting, releasing of grant, conducting Governing Council Meetings, reviewing the annual statement of accounts / reports etc. which are now being done individually in view of the separate identity of these two organizations. The Delhi Institute of Tool

Engineering Society (DITES) may also facilitate a better vision for future and bring about greater involvement of industries in the development of the Society to make it self-sustainable in the near future.

It was also felt that the Governing Council of the newly constituted society should include members from PHD Chamber of Commerce, CII, FICCI, Small Scale Industries Association etc, besides the Government representatives and such society should get registered under the Societies Registration Act and start functioning with effect from  $1^{st}$  April, 2007.

#### **CHAPTER-II**

#### 13. FINDINGS / OBSERVATIONS

Following are the findings / observations on the basis of field visits / interactions with the staff / trainees of the TRTC at Wazirpur, its Sub-Centre at Okhla and the HTVTC at Okhla.

#### A. Tool Room Training Centre (TRTC), Wazirpur

- The Tool Room Training Centre (TRTC) is situated in the Wazirpur Industrial Area Covering an area of approximately 3.5 Acres. Manufacturing of tools and training of manpower are the main activities of this Centre.
- 2. A majority of the machines in TRTC are very old which require heavy maintenance causing high overheads.
- 3. The TRTC generally is not able to comply with the time schedule of work order. Only 13.6% of work orders were completed by it in time during 2004-05. It could not complete any work order in time during 2005-06. One of the main reason for the delay in compliance of work order is the procedural delay in procuring raw materials required for production of desired tools/ dies.
- 4. Since in case of job order the raw materials are supplied by the party, the performance of the Centre in compliance of job order is comparatively better. It could complete 43.7% and 36.1% of job orders in time during 2004-05 and 2005-06 respectively.
- 5. In this world of competition, it is not possible for the clients to wait for a very long period on TRTC to supply the requisite tools. As a result, some of the clients have ceased to approach the TRTC for development of tools, dies, moulds, jigs, fixtures, press tools etc.

- 6. The TRTC does not have the ISO-9001 certification in respect of its products which can create customers confidence.
- 7. The TRTC's Diploma Course in Tool & Die Making is recognized by the Board of Training & Technical Education, Govt. of NCT Delhi, while its P.G. Course in Tool Design & Manufacturing is recognized by the Ministry of Human Resource Development, Govt. of India. The rest of the training courses are recognized by the TRTC itself.
- 8. The curriculum for short term / tailor made courses are designed by the TRTC itself as per demand / requirement in the market/industry.
- 9. At present, TRTC has no hostel of its own. However, it makes arrangement for hostel on rent for those students of Post Graduate Course in Tool Design and Manufacturing who come from outside Delhi. The rent for the hostel accommodation is shared by the TRTC and the incumbent on 50:50 basis.
- 10. As per the training faculty of TRTC, the numbers of trainees are more than the infrastructure available in the Centre.
- 11. Delhi Govt. provided special non-recurring grant of Rs. 4 crore during 2005-06 to TRTC, out of which an account of about 3.5 crore is being spent by it for up-gradation of training facilities / purchase of Lathe machine/ Milling machine / Grinder etc.
- 12. The TRTC is charging for the long term and short term courses conducted by it except in case of trainees under Prime Minister's Rojgar Yojna (PMRY) and summer training attended by the students from Technical Institutes of Delhi Govt.

- 13. There are 100% placement opportunities to the passed outs/trainees under the long term / regular courses except in case of one year certificate course in Computer Programming.
- 14. Presently, the financial accounts of TRTC and its Sub-Centre are being maintained jointly. The main sources of income of the TRTC and its Sub-Centre are fees from training and invoicing. Their total income could not even meet 50% of their staff salary during 2002-03 to 2005-06.
- 15. The deficit of these Centres increased from Rs.204.22 lakh in 2002-03 to Rs. 248.00 lakh in 2005-06. Almost whole of the deficit is being met by Delhi Govt. by providing recurring grant-in-aid.
- 16. At present more than 50% of the sanctioned posts are left vacant in TRTC and its Sub-Centre.
- 17. At present, there is no effective system to give publicity to the services provided by TRTC and its Sub-Centre.
- 18. Presently an executive committee of three members is running the TRTC. There is no General Manager (GM) in place in the Centre. This has led to erosion in sense of responsibility and accountability among the employees at large and hence affected the discipline of work in the Centre.
- 19. According to the provisions, the Governing Council (GC) of TRTC should meet at least once in every six months. The 64<sup>th</sup> meeting of GC was held on 26.03.2003 followed by the 65<sup>th</sup> meeting on 03.09.2003, 66<sup>th</sup> meeting on 29.04.2004 and 67<sup>th</sup> meeting on 03.07.2006. The duration between the last two meeting of GC was more than 2 years
- 20. It has been observed that basic facility of drinking water was not appropriate. There was lack of cleanness of toilets.

- 21. The road in front of one of the main entrance of TRTC was found to be incomplete which as a result caused water logging and inconvenience for public passage.
- 22. One scrapped vehicle of TRTC was found lying in the premises of TRTC which should have been disposed of earlier to save reduction in its value.

#### B. Sub-Centre of TRTC, Okhla

- 23. A Sub-Centre of TRTC is functioning in the building of Hi-Tech Vocational Training Centre (HTVTC) at Okhla. This Sub-Centre was established in the year 2000 as a centre of excellence in the field of Computer Aided Design (CAD)/Computer Aided Manufacturing (CAM) / Computer Aided Engineering (CAE) related to Tool Engineering.
- 24. The Sub-Centre is equipped with latest hardware and software to maintain its status as the front-runner of CAD/CAM/CAE technology.
- 25. The courses being conducted at the Sub-Centre are of short-term in nature and the recognizing authority for these courses is the TRTC.
- 26. The Sub-Centre is running a number of short-term courses, out of these the following are popular:
  - a. Advanced Diploma in Computer Aided Tool Engineering (CATE) (480 hours duration) (Fee Rs.48,000/-).
  - b. Certificate Course in Computer Aided Tool Design (CATD) (480 hours duration) (Fee Rs.24,000/-).
  - c. Auto CAD ( 4 Weeks duration ) (Fee Rs.4,000/-).
  - d. Auto CAD & MDT ( 6 Weeks duration ) (Fee Rs.6,500/-).

For Advanced Diploma in CATE, Degree/Diploma holders like BE/ Polytechnic in the trade of Mechanical Engineering/ Plastic Technology/Tool & Die Making are eligible. For Certificate course in CATD, ITI passed outs in Mechanical branches are eligible for admission.

Engineers/ Draftsman/ Designers/ Supervisors with relevant experience are eligible for admission in the courses of Auto CAD and Auto CAD & MDT.

- 27. Presently the PG Course in Tool Designing & Manufacturing is being conducted in the Sub-Centre of TRTC from August, 2006. The students under this course also attend the TRTC, Wazirpur for practical classes.
- 28. The Sub-Centre also provides free consultancy to the students / trainees who want to establish their own units.

#### C. Hi-Tech Vocational Training Centre (HTVTC)

- 29. The Hi-Tech Vocational Training Centre (HTVTC) at Okhla Industrial Area, Phase-II was set up by the Govt. of National Capital Territory of Delhi in Co-operation with the Govt. of Italy in December, 1993 with the basic objectives of (i) Training / consultancy in hi-tech areas and (ii) Production of sophisticated engineering items on CNC machine.
- 30. It is functioning as a society under Societies Registration Act, 1860. The management of the society vests in the Governing Council with Secretary-Cum-Commissioner (Industries) as its Chairman.
- 31. Training is the core activity of HTVTC. It has been running in loses since its inception.
- 32. Both the Sub-Centre of TRTC and HTVTC are running in the same building at Okhla. The TRTC and HTVTC are functioning under the administrative control of Industries Department of Delhi Govt. There is much similarity in the nature of activities performed by these Centres.

33. However, since both the Centres are presently functioning as individual societies, they are having separate budgeting and release of grant from the Govt., separate reporting and review of accounts, separate Governing Council's Meetings etc. Besides, the expertise, facilities, infrastructure etc. available in these two Centres are not being compensated.

#### **CHAPTER-III**

#### 14. RECOMMENDATIONS

- The purpose of the TRTC, its Sub-Centre and the HTVTC is to cater to the need of the industries which require trained manpower, sophisticated tools / dies, etc. to cope with the highly competitive business environment. However, present financial performance of both the Centres is not encouraging since they are running in heavy losses and hence, depend for grant-in-aid from the Govt. to meet their deficits. Thus, a restructuring of these entities to make them financially viable is urgently necessary.
- 2. Towards this direction, the first step may be to constitute a single society namely 'Delhi Institute of Tool Engineering Society (DITES)' to manage HTVTC and TRTC. This integrated society will reduce the administrative and accounting work load because presently these units are registered as two separate societies under the Societies Registration Act.
- 3. With the proposed integrated society, the activities of HTVTC will continue as a distinct Centre under DITES. However, since the TRTC and the HTVTC will come under the same umbrella, networking of the facilities and other resources available in these two Units would enable them to cater to a wide industrial market in and round Delhi. The training programmes can also be designed for compensating the faculty skills available at these Centres.
- 4. The Tool Production Centre of TRTC will continue to cater to the tool/die etc. requirements of the small and medium scale Industries. This Centre will also be used as practical work shop for the trainees in DITES.
- 5. The Governing Council of DITES should include members from PHD Chamber of Commerce, CII, FICCI, Small Scale Industries Association etc, besides the Government representatives. The Governing Council should meet at regular intervals to review the physical/financial performance of the newly constituted Society and to take necessary steps for its improvement.

- 6. The DITES may facilitate a better vision for future and bring about greater involvement of industries in the development of the Society to make it self-sustainable in the near future. In this regard Industry Department has to take necessary steps so that this integrated unit under the Societies Act may start functioning w.e.f. 1<sup>st</sup> April, 2007.
- 7. The course contents of various training programmes under DITES should be reviewed and updated to meet the requirement as per latest technology available and demand in the market/industries. For this purpose a Advisory Committee may be constituted comprising faculty members from DITES, representatives from the Administrative Department, Delhi College of Engineering, Netaji Subhash Institute of Technology (NSIT), Polytechnics and ITIs of Delhi Govt. and also representatives from various Industrial Houses. This Committee should meet at least once in a year.
- 8. The DITES should make wide publicity of the services to be provided by it, which will help in augmenting its revenue.
- 9. At the current juncture when TRTC is loosing its clients, it may be helpful to it to opt for ISO-9001 certification to regain the customers confidence. Further, the TRTC / DITES will have to ensure timely delivery of goods, maintain quality, charge reasonable costs and establish good behaviour / relationship with the customers to put it back to the running track as a viable unit.
- The DITES may introduce degree courses in some specialized trades and also impart training in the latest technology.
- 11. The DITES should charge for full recovery of the cost from the training candidates sponsored by the industries (Govt. & Private). However, individual courses organized by the DITES itself may have some subsidy element.
- 12. There are 2 sanctioned posts each for General Manager (GM) (Rs.16400-20000) and Deputy General Manager (DGM) (Rs.14300-18300) in TRTC which are presently vacant. Only 1 post each for GM and DGM should be filled up

and the remaining 1 vacant post for GM and 1 vacant post for DGM along with the remaining 140 vacant posts as mentioned in the Table No.6 of the Evaluation Report should be abolished. Further, only the minimum essential posts should exist which will help in reducing the deficit of TRTC. Moreover, before creation of posts, concurrence of Finance Department may be taken by the Administrative Department.

- 13. Every year, the DITES should prepare an Annual Report.
- 14. Some of the other steps that may be taken are as follows:
  - (i) Proper maintenance of the TRTC building should be ensured to create a clean, safe and hygienic environment for the trainees/staff etc. It may be ensured that there should be no leakage of rain water from roof top which may damage the costly equipments and machinery.
  - (ii) Necessary steps should be taken to short out the drinking water problem being faced by the staff/trainees in the TRTC.
  - (iii) The matter may be taken up with MCD for early completion of the roadwork in front of one of the main entrance of TRTC.
  - (iv) It should be ensured that the generators in TRTC should remain functional so that the failure in electricity supply may not hamper the production and practical training in the TRTC.
  - (v) Two condemned vehicles one lying in the premises of TRTC, Wazirpur and the other lying in the premises of HTVTC should be disposed of urgently, preferably by the process of inviting sealed quotations, to get better value.