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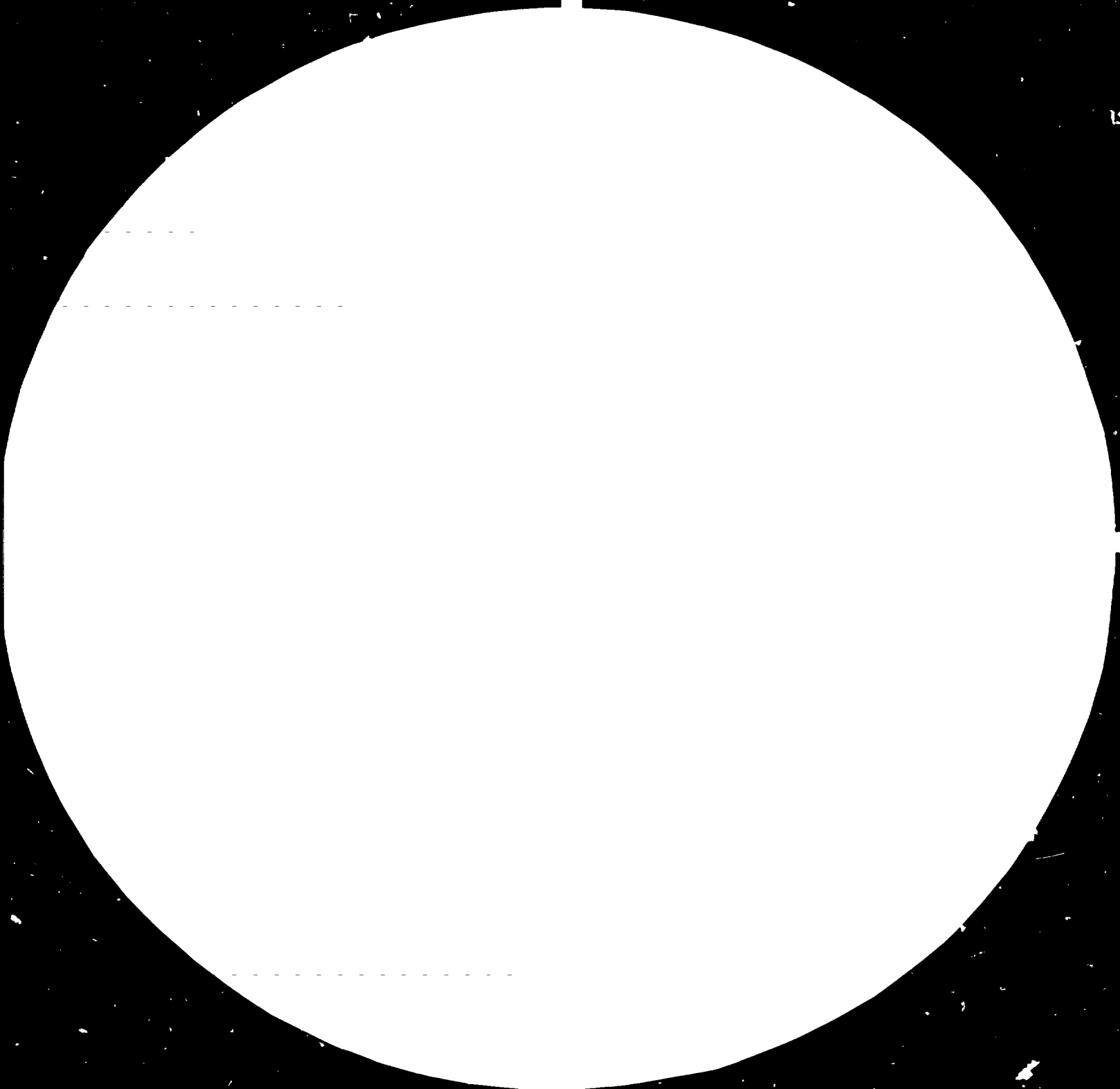


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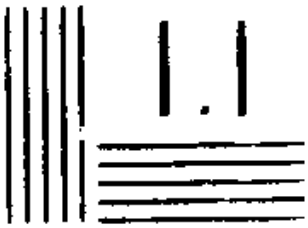
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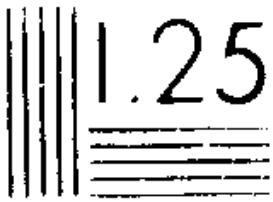
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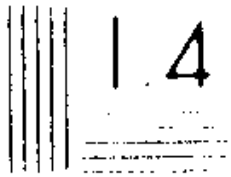
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14 June 1983

English

India.

EVALUATION AID PRODUCT-CUM-PROCESS DEVELOPMENT CENTER AT IDEMI

DP/IND/82/002

INDIA

Mission Report

Prepared for the Government of the Republic of India by the United Nations Industrial Development Organisation acting as executing agency for the United Nation Development Programme.

Based on the work of I. Petrov

Chief Technical Adviser

United Nations Industrial Development Organization

Vienna

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2. ABSTRACT

The basic conclusions are as follows:

The Government Budget for 1983 is granted.

The civil constructions are completed.

National staff is positioned.

The equipment received are in use.

Regular services are provided to local industries on design, testing & calibration, training engineers from local industries, design & production of specialised tools. The Project development is good and advance according to the Project Document.

Minor changes in the Project Document are necessary to reflect the request for additional international experts assistance, training and equipment as suggested by the Tripart: Review Mission.

The following recommendations are proposed for kind consideration by the Government of India, UNDP, UNIDO and National Project Manager in order to facilitate the smooth project implementation:

1. Ministry of Industry, Ministry of Finance, UNDP and UNIDO to approve the Project Revision proposed by Tripartite Review Mission (Annexe 8).

2. UNIDO to reflect the corresponding changes in the Experts Job Descriptions (Annexe 4).

3. The National Project Management to submit to the Government a candidate's form for training according to Annex 5.

4. UNDP and UNIDO to approve up-dated Work Plan (Annex 9).

5. Ministry of Industry to issue official request to UNIDO for approval of Project Document for the international Meeting on Small Scale Industry-Institute linkage with a special reference to Instrumentation.

3. INTRODUCTION

3.1 Project Background

The development of the instrument industry in India was although appreciable during and after the second Five Year Plan, there were limitations especially in the case of small scale units in contributing a major share and meeting the country's ever increasing demand for more and more instrumentation. The technological constraints faced by most of these small scale units were relating to design, development and evaluation of new products as well as quality control of the existing products, Non-availability of vital test equipments and lack of suitably trained technical personnel were some of the major handicaps, by and large, experienced by the instrument industry. The situation was also aggravated by the non-existence of standard laboratories for testing, calibration and evaluation of process control instruments in particular.

IDEMI with its close association with the indigenous instrument industry for more than a decade of its existence, has been able to identify the areas which directly or indirectly affect the industry's development growth. It has been observed that one of the major handicaps responsible for insufficient growth of this industry in general is lack of certain specialised facilities for product evaluation and non-existence of authorised institutions capable of extending such facilities.

In order to establish facilities for design, testing, calibration and evaluation of electronic, process control and Low-cost instruments and domestic appliances the Government selected IDEMI as a Government counterpart executed Agency for this Project.

3.2 Official Arrangements

The assistance was requested in 1982, approved by UNDP May 2, 1982, by the Government June 7, 1982 and by UNIDO August 11, 1982. The project became operational in December 1982. IDEMI is reporting to the Ministry of Industry and is governed by a Governing Council.

3.3 Contributions

According to the Project Document the total UNDP contribution is US $ 1,020,000.

The Government contribution is Rs. 5 271 370

3.4 Objectives of the Project

The objectives of the Project are outlined in the Project Document as follows:

A. Development objective
The development objective is to promote import substitution and exports of electrical, electronic and process control instruments and appliances manufactured by small scale industries.

B. Immediate Objectives
1. Establishment of facilities for:
   a) evaluation of a wide range of electronic and pneumatic process control instruments being produced in the country for use in various industrial applications.
   b) undertaking reliability evaluation studies especially on new instrument products and to offer necessary feedback to the manufacturers before the products are introduced in the market.
   c) testing of electronic instruments for intrinsic safety
   d) testing of materials, components and finished products for domestic appliances.
   e) electroplating and painting for specified industries in small scale sector.
2. Development of standards for process instruments an allied items.
3. Strengthening of tool room facilities for undertaki research and development work on.
   a) Domestic appliances and low-cost instruments
   b) Substitution of scarce raw materials especially for domestic appliances.
4. To build up a cadre of trainers for providing industrial training structured according to the needs of instrument industry.

3.5 OUTPUTS

1. Laboratories/workshop equipped to carry out testing and evaluation of a wide range of electronic, process control, domestic appliances and low-cost instruments by December 1983.

2. Compendia of standards developed for specified instruments and appliances by July 1983.

3. Documentation on Design, manufacture and maintenance of household electrical appliances and low-cost instruments by December 1983.

4. Standardised materials and components used for manufacture of low-cost instruments by December 1983.

5. Quality control standards for production of safe and efficient household electrical appliances by December 1983.

6. 13 IDLMI engineers trained abroad on various disciplines of instruments industry by March 1984.

7. Training facilities established for the industry personnel in areas of electronic and process control instruments, domestic electrical appliances and low-cost instruments by July 1983.

4. MAIN ACTIVITIES

The CTA arrived on his first mission at Bombay on 10.03.1983 (at Vienna 6.03.1983) and started his work in accordance with the Job Description (Annex 1). Work Programme was prepared jointly with the National Project Manager (Annex 2).

4.1 MEETINGS

Visits to and meetings with various industries were organised to identify the field and scope of co-operation between these industries and IDLMI in the frame of the project as well as to identify sources for equipment purchase (Annexe 3).

Meeting with Mr. V.K. Dar, Addl. Secretary, Ministry of Industry was organized to discuss various subjects on the Project - Governments inputs in particular.

4.2 REPORTS

After one month on post a Preliminary Report was prepared with findings and recommendations. UNIDO approved the Report (UNIDOGRAM to UNDP-New Delhi).

Project Work Plan was prepared with corresponding activities and milestones (as annex to the Preliminary Report). UNIDO approved the Work Plan (UNIDOGRAM to UNDP-New Delhi).

Progress Report was prepared, covering six months period (December, 1982 - May, 1983), and was sent to UNDP, New Delhi.

Performance Project Evaluation Report was drawn and sent to SIDFA - New Delhi for comments and endorsement, following the instructions in Mr. Butaev's letter dated 6 May, 1983.

Draft of Project Revision with corresponding updated draft of Project Work Plan was prepared for the Tripartite Review Meeting (29 May, 1983).

4.3 FINANCES

The Government contribution for the year 1983-84 is granted, including funds for personnel costs, civil construction works and equipment.

4.4. BUILDING

The re-orientation of the present facilities is completed including a large scale reconstruction works.

Continuous re-construction is under way to build up additional improvements and activity conveniences.

Government's funds for extra civil construction to raise one additional floor in Administrative Building are obtained. All necessary pre-requisites for starting civil construction are fulfilled in order to start these works by September, 1983 and to be completed in March 1984.

4.5 PROJECT PERSONNEL

20 senior staff members as well as 26 junior staff members are positioned (details are outlined in the Project Progress Report Form B-2). Advertisements have been released in various newspapers and applications have been received. Selection of the candidates is carried out continuously.

4.6 INTERNATIONAL STAFF

Prof. Ivan Petrov joined this project as Chief Technical Adviser in March 1983.

Appointment of a Tool Manufacture Expert viz. Mr. V.V. Tsotsknadze is being processed to the Government and UNDP, New Delhi.

After thorough discussions on Project objectives and outputs, it is realized that the number, field, duration, duties and qualifications of the International Experts hasto be updated (Annex 4). This proposal was fully accepted by the Tripartite Review Mission and the Expert duration is increased to 40 man-months. Additional funds are envisaged in the Project Revision.

4.7 TRAINING

Based on the proposal of the CTA and the National Project Manager the Tripartite Review Mission accepted and increased the training component in order to meet the requestfor more comprehensive training of national staff (Annex 5). The corresponding increase of the Budget's training componente to 30½ man-months is envisaged by the Tripartite Review Mission.

The CTA did contact by letters many advanced companies in Europe, USA and Japan to look for opportunities for National Project Manager's study tour. Positive answers were received from UK, USSR, USA, Japan, Austria and Bulgaria. His nomination form is under preparation and Government's approval is expected by end of June. The other fellowships are planned for 1984/85.

4.8 EQUIPMENT

Till 31st of May, 1983 Purchase Orders are placed for US $ 520,000 and 60 items totalling US 200,000 are already received at IDEMI and are in use. Some discrepancies in the previous requisitions were cleared with Purchase & Contracts Services Section. New 18 Requisitions were prepared in the period of April/May 1983 covering expendable and non-expendable equipment. Detailed report about the equipment is outlined in the Project Progress Report - Form G.

Based on request for additional equipment, the Tripartite Review Mission accepted the Project Revision with an increase of equipment component by 71,600 $.

5. MAIN OUTPUTS

The following laboratories and facilities are established and carry out regular services to local industries in the field of Instrumentation:

- Process Control Instruments
- Tool Design
- Tool Manufacture
- Design & Development
- Calibration & Testing
- Training of Engineers from local industries
- Economics & Statistics.

An impressive training programme is launched during 1983 to train more than 120 engineers from local industries in various fields and levels of Instrumentation.

Details for the Project outputs are given in Annex 6. Based on the services provided to industry in the frame of the Project for the first 6 months IDEMI is earning Rs. 900,000. The target for 1983 is 2 million Rupees (According the current rate 1 US $ = 9.75 Rupees).

6. TRIPARTITE REVIEW MEETING

The Tripartite Review Meeting took place on 28th May, 1983. The Minutes of the Meeting are given in Annex 7. The main conclusions and recommendations of the meeting are as follows:

1. An increase of $ 217,000 in the UNDP inputs to cover the cost of additional 8 man-months in the Expert Component, 30½ man-months in the training component and transfer for procurement of additional items of equipment.

2. The necessary Budget Revision to reflect the allocation of additional funds should be prepared and procured for approval of the Ministry of Industry; Department of Economic Affairs and UNDP.

3. Based on the Revised Job Descriptions UNIDO should identify suitable candidates for the post of Experts to be assigned, to the Project in 1984 and submitted their nominations for consideration by the Government.

4. Completed nomination forms of candidates to be deputed for fellowships training in 1984 should be submitted by the Project authorities officially to the Ministry well in advance to enable UNIDO Headquarters to make appropriate placement arrangements.

Following the recommendations of the Tripartite Review Meeting, the Project Management and the CTA prepared a Project Revision (Annex 8), which is submitted to the Ministry of Industry on 10 June 1983.

The corresponding Work Plan according to this Project Revision is prepared (Annex 9).

7. INTERNATIONAL MEETING ON SMALL SCALE INDUSTRY - RESEARCH INSTITUTE LINKAGE WITH SPECIAL REFERENCE TO INSTRUMENTATION

In the light of very close relations established between IDEMI's UNDP Project and local industries a seminar is proposed in 1985 to acquaint representatives from selected developing countries with the proved experience of this Institute in the frame of the Project in its co-operation with the industries in India. A Project Proposal is prepared (Annex 10), Preliminary Aide-Memoire for the Project is attached. This Project Proposal will be discussed at the IDEMI Governing Council Meeting and submitted to the Government. The Government will issue official request to UNIDO for financing the Seminar from Regular Programme Fund.

8. CONCLUSIONS

The Government Budget for 1985 is granted.

The civil constructions are completed.

National Staff is positioned.

The equipment received are in use.

Regular services are provided to local industries on design, testing & calibration, training engineers from local industries, design & production of specialised tools.

The Project development is good and advance according to the Project Document.

Minor changes in the Project Document are necessary to reflect the request for additional international expert assistance, training and equipment as suggested by the Tripartite Review Mission.

9. RECOMMENDATIONS

The following recommendations are proposed for kind consideration by the Government of India, UNDP, UNIDO and National Project Manager in order to facilitate the smooth project implementation:

1. Ministry of Industry, Ministry of Finance, UNDP and UNIDO to approve the Project Revision proposed by Tripartite Review Mission (Annex 8).
2. UNIDO to reflect the corresponding changes in the Experts Job Description (Annex 4).
3. The National Project Management to submit to the Government candidates/fellowship training according to Annex 5.

/for

4. UNDP and UNIDO to approve the updated Work Plan (Annex 9).
5. Ministry of Industry to issue official request to UNIDO for approval of Project Document for the International Meeting on Small Scale Industry-Institute linkage with a special reference to Instrumentation.

ANNEX 2
CTA MISSION REPORT
DP/IND/82/002

UNITED NATIONS

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

UNIDO 22 October 1982

REQUEST FROM THE GOVERNMENT OF THE REPUBLIC OF INDIA

INTERNAL

JOB DESCRIPTION

DP/IND/82/002/11-01/31.9.B

Post title Chief Technical Adviser (CTA)

Duration 8 months (4 months in 1982/83; 2 months in 1984; 3 months in 1985)

Date required December 1982

Duty station Bombay

Purpose of project To establish facilities for evaluation and testing of electric, electronic and pneumatic process control instruments and to undertake reliability and safety tests of products manufactured in the country before they are introduced in the market

Duties

In close cooperation with the National Project Director and counterpart personnel, the CTA will specifically be expected to:

1. Assist the National Project Director in the implementation of the programme and to hold overall responsibility for the implementation of the project on behalf of the Executing Agency.

2. Advise and extend necessary suitable guidance to the experts and counterpart staff in respect of technical matters and problems.

3. Coordinate with the National Project Director during the project implementation stage both in administrative and technical functions.

4. Stay at the project location for 4 months during the initial stages followed by two short visits of two months duration each. The second visit being for mid-term review of the project activities and the last for final execution/implementation of the project in all respects.

..../..

Applications and communications regarding this Job Description should be sent to:

Project Personnel Recruitment Section, Industrial Operations Division
UNIDO, VIENNA INTERNATIONAL CENTRE, P.O. Box 300, Vienna, Austria

V.81-33106

Duties

The CTA will also be expected to follow UNDP standards, rules and regulations of the reporting procedure.

The expert will also be expected to prepare a final report, setting out the findings of the mission and recommendations to the Government on further action which might be taken.

Qualifications

The CTA should be an electronics/instrumentation engineer with specialisation in process instrumentation and having experience in their application/maintenance/evaluation procedures, and preferably with previous experience in handling similar project execution work.

Background Information

IDEMI with its close assocation with the indigenous instrument industry for more than a decade of its existence, has been able to identify the areas which directly or indirectly affect the industry's development growth. It has been observed that one of the major handicaps responsible for insufficient growth of this industry in general is lack of certain specialized facilities for production evaluation and non-existence of authorised institutions capable of extending such facilities. This is particularly true in the case of process control instruments evaluation. As of present no organization exists in the country which has fully fledged facilities for testing and evaluating the complete range of process control instruments. There are about 300 units currently engaged in production of process control instruments, components and other accessories. Towards the end of the sixth Five Year Plan it is expected that by optimum utilization of the existing production capacity and also through an expansion and diversification programme, the current production of process control instruments may rise from the present 40% (worth about Rs. 20 crores) to about 70%. Even though some of the large-scale manufacturers and user industries have already established limited testing facilities exclusively for their own use, it is far from the reach of small scale manufacturers with the result that their increasing evaluation needs remain unfulfilled.

The small scale instrument industries have their own inherent limitations to have the required test facilities and the expertise to change or modify the designs based on reliability evaluation studies. For undertaking reliability evaluation studies, especially on electronic process control instruments, the need for establishing the required facilities is also justifiable.

Another area in which suitable facilities are very much lacking in the country is for evaluation of instruments for intrinsic safety. Electrical or electronic process control instruments for use in hazardous process plants have to be perfectly evaluated for their suitability for any given application. The expeditious establishment of Process Control Instruments Test and Evaluation Centres both as service to manufacturers as well as for safeguarding the interest of consumers or the user industries is, therefore, of utmost importance.

CTA WORK PLAN

FIRST

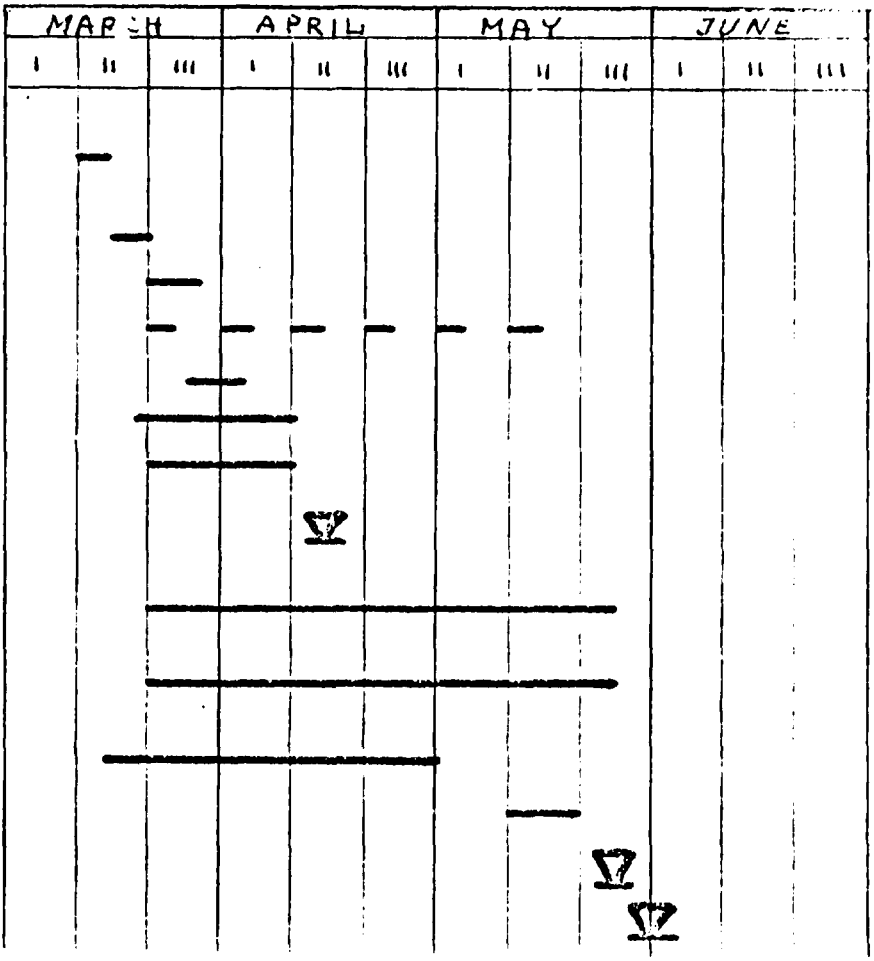
ACTIVITIES

1. First-hand acquaintence with the existing facilities and personnel.
2. Discussions with the National Project Manager on project objectives,outputs,inputs, activities.
3. Preparation of the CTA Work Plan
4. Visits to various industries
5. Finding's outline
6. Preparation of the Preliminary Report
7. Preparation of the Work Plan for the project
8. Discussion the Work Plan for the project with UNDP Res. Rep. and SIDFA
9. Preparation of Specifications for imported equipment.
10. Preparation of specification for indigenous equipment.
11. Identification of companies for the National Project Manager's study tour.
12. Preparation of Mission report
13. Discussions on the Mission report with UNDP Res. Rep. and SIDFA
14. Departure

Annex 2
CTA MISSION REPORT
DP/IND/82/002

- DP/IND/82/002

MISSION



INDUSTRY'S VISITS

1. Anamed Data Systems Marsap Services, Bombay.
2. Instrumentation Ltd., Palghat, Kerala.
3. Teknic Controlgear Pvt. Ltd., Bombay.
4. Budenberg Garg Co. Ltd., Bombay
5. Organizing Committee of World Instrumentation Symposium Wisitex '84 - Bombay.
6. Philips, Bombay.
7. Lexel Corp., Bombay.
8. Blue Star Ltd., Bombay.
9. Graphics India, Bombay.
10. ELCOMA, Bombay.
11. HINDITRON, Bombay
12. Nasik Power Station, Nasik, Maharashtra.
13. VOLTAS, Bombay
14. Micronic Devices, Bombay.
15. Hinditron Services Pvt. Ltd., Bombay.
16. Harshadray Pvt. Ltd., Bombay.
17. Jyoti Ltd., Bombay.

INTERNATIONAL EXPERTS

		Starting date	Duration (months)
1.	Chief Technical Adviser	March 1983	8(4+2+2
2.	Expert in Instrument Design	July 1984	4
3.	Expert in Microprocess Instruments Design & Development	Jan.1984	4
4.	Expert in Quality Control & Reliability Evaluation procedures	Jan.1984	4
5.	Expert in Tool Design	Aug.1984	5
6.	Expert in Domestic Appliances Design	July.1984	4
7.	Expert in Tool Manufacture	Nov.1983	3
8.	Expert in High Pressure Digital Pneumatic Instruments	May,1984	8

Duration, Qualifications, Experience & Duties of the Experts

1. Chief Technical Adviser — No change

2. Expert in Instrument Design

Duration: Four months

Duties : In close co-operation with the National Project Manager, counterpart personnel and the Chief Technical Adviser, the expert will specifically be expected to:

1. Assist in structuring a team, capable to carry out design & development activity
2. Assist in setting up the design & development facilities (space, equipment, tools, arrangement)
3. Assist in setting up the design & development procedures and guidance materials by designing a specific prototype.

The expert will also be expected to carry the following materials, prepared in advance:

- List of literature on the post subject, which reflects the most advanced State-of-the-Art in the field concerned.
- Standards, instructions and procedures, reflecting the design, testing and evaluation of the products in the field concerned.

- Approximately 4000 - 5000 words Introductory Lecture (with the corresponding slides) on the field concerned

- Some specific materials and/or components if necessary.

The Expert will also be expected to prepare a final report, setting out the findings of the mission and recommendations to the Government on further action which might be taken.

Qualification: An electronic engineer with a good background in instruments design & development. He shoul have at least 10 years of continuous working experience in instrument design in a R & D Institute or department. He should be still acting as R & D Project leader in instrumentation.

3. Expert on Microprocessor Instruments Design and Development

Duration : Four months

Duties : In close co-operation with the National Project Manager, counterpart personnel and the Chief Technical Adviser, the Expert will specifically be expected to:

1. Assist in structuring a team, capable to carry out microprocessor instruments & system design and development.

2. Identify areas of local industries for implementation of microprocessor instruments & systems.

3. Assist in development of a low-cost Microprocessor instrument (MDS Philips PM 4421 and Intel 8080 components available at IDEMI)

4. Assist in setting up Training programme and training facilities on microprocessors (Intel training kit's available at IDEMI)

The Expert will also be expected to carry the following materials, prepared in advance:

- List of literature on the post subject, which reflects the most advanced State-of-the-Art in the field concerned.
- Standards, instructions and procedures, reflecting the design, testing and evaluation of the products in the field concerned.
- Approximately 4000 - 5000 words Introductory Lecture (with the corresponding slides) on the field concerned
- Some specific materials and/or components if necessary.

The Expert will also be expected to prepare a final report setting out the findings of the mission and recommendations to the Government on further action which might be taken.

Qualification : An electronic engineer with a good background on microprocessors instruments & system design (software & hardware). He should have minimum 5 years of working experience in microprocessor instruments & system design. He should be still acting as Microprocessor Design Team Leader in instrumentation.

4. Expert on Quality Control & Reliability evaluation procedures

Duration : Four months

Duties : In close co-operation with the National Project Manager, counterpart personnel and the Chief Technical Adviser, the Expert will specifically be expected to:

1. Assist in setting up the Testing & Calibration facilities for power, voltage, current, frequency, resistance, capacitance, inductance, temperature, flow, pressure, humidity, vibration.

2. Assist in setting up procedures and guidance materials for testing & calibration, quality control and reliability evaluation of electrical, electronic and pneumatic measuring and process control instruments and domestic appliances.

The Expert will also be expected to carry the following materials, prepared in advance:

- List of literature on the post subject, which reflects the most advanced State-of-the-Art in the field concerned.
- Standards, instructions and procedures, reflecting the design, testing and evaluation of the products in the field concerned.
- Approximately 4000 - 5000 words Introductory Lecture (with the corresponding slides) on the field concerned.
- Some specific materials and/or components if necessary.

The Expert will also be expected to prepare a final report setting out the findings of the mission and recommendations to the Government on further action which might be taken.

Qualification: An electrical or electronic engineer with a good background on quality control and reliability evaluation of measuring and process control instruments. He should have at least 10 years of continuous working experience in a quality & reliability testing Laboratory. He should be still acting as Testing Laboratory Team Leader for Instrumentation.

5. Expert on Tool Design

Duration : Five months

Duties : In close- co-operation with the National Project Manager, counterpart personnel and the Chief Technical Adviser, the Expert will specifically be expected to:

1. Assist the Tool Design section of IDBMI in design of tools, jigs and fixtures for the small scale industries, producing various instruments and domestic appliances.

2. Assist in design of tools for plastic instruments components by replacing the existing metal components.

3. Assist in evaluation of plastic materials to be used in measuring and process control instruments and domestic appliances.

4. Assist in preparation of Training programme on Tool Design.

The Expert will also be expected to carry the following materials, prepared in advance:

- List of literature on the post subject, which reflects the most advanced State-of-the-Art in the field concerned.

- Standards, instructions and procedures, reflecting the design, testing and evaluation of the product in the field concerned.

- Approximately 4000 - 5000 words Introductory Lecture (with the corresponding slides) on the field concerned.

- Some specific materials and/or components if necessary.

The Expert will also be expected to prepare a final report, setting out the findings of the mission and recommendations to the Government on further action which might be taken.

Qualification

A mechanical engineer with a good background in tool design for instruments and domestic appliances. He should have at least 10 years of <u>continuous</u> working experience in tool design in a Tool Design institute, department or section. <u>He should be still acting as a Tool Design Leader in design of tools for instrumentation</u>.

6. Expert on Domestic Appliances Design

Duration : Four months

Duties: In close co-operation with the National Project Manager, counterpart personnel and the Chief Technical Adviser, the Expert will specifically be expected to:

1. Assist in development of household domestic appliances and indigenization of selected imported models of some such appliances.

2. To guide and assist in setting up the laboratory facilities for testing of domestic appliances.

3. To advise on evaluation procedures and quality control of domestic appliances.

The Expert will also be expected to carry the following materials, prepared in advance:

- List of literature on the post subject, which reflects the most advanced State-of-the-Art in the field concerned.

- Standards, instructions and procedures, reflecting the design, testing and evaluation of the products in the field concerned.

- Approximately 4000 - 5000 words Introductory Lecture (with the corresponding slides) on the field concerned.

- Some specific materials and/or components if necessary.

The Expert will also be expected to prepare a final report, setting out the findings of the mission and recommendations to the Government on further action which might be taken.

Qualification: A mechanical or electro engineer with a good background in design and development of domestic appliances and household instruments. He should have at least 10 years experience in design and development of domestic appliances in a R & D department. He should be still acting as Design Team Leader in domestic appliances and household instruments.

7. Expert on Tool Manufacture

Duration : Three months

Duties : In close co-operation with the National Project Manager, counterpart personnel and the Chief Technical Adviser, the Expert will specifically be expected to:

1. Assist the Tool Workshop at IDEMI in structuring a team, capable to carry out production of precision Press-tools, Jigs & Fixtures, Mould for Plastic & Die-Casting components and Precision machining Jobs.
2. Assisting in setting up the Tool Workshop facilities (space, equipment, tools, arrangement).
3. Assist in setting up the machining procedures and guidance materials machining of tools, jigs and fixtures and general precision machining jobs.
4. Assist in preparation of Training Programme on machining of tools, jigs and fixtures.

The Expert will also be expected to carry the following materials, prepared in advance:

- List of literature of the post subject, which reflects the most advanced State-of-the-Art in the field concerned.
- Standards, instructions and procedures reflecting the design, testing and evaluation of the products in the field concerned.
- Approximately 4000 - 5000 words Introductory Lecture (with the corresponding slides) on the field concerned.
- Some specific materials and/or components if necessary.

The Expert will also be expected to prepare a final report, setting out the findings of the mission and recommendations to the Government on further action which might be taken.

Qualification: A mechanical engineer with a good background in tool production. He should have at least 10 years experience in machining and tool production.

8. Expert on High Pressure Digital pneumatic Instruments

Duration : Eight months

Duties : In close co-operation with the National Project Manager, counterpart personnel and the Chief Technical Adviser, the expert will specifically be expected to:

1. Assist in structuring a team, capable to carry out design & development activity.
2. Assist in setting up the design & development facilities (space, equipment, tools, arrangement).
3. Assist in preparation of a Long-term Programme for development of High-Pressure Pneumatic-Logic process control instruments for Low-cost automation, based on the requirements of the local small-scale industries.
4. Assist in organising a Training Programme on Low-cost automation, based on Pneumatic-logic process control instruments.

Qualification: A mechanical engineer with a good background in design of High-pressure Digital pneumatic instruments and Low-cost system for automation with such instruments. He should have at least 10 years of continuous working experience in pneumatic digital instruments design and low-cost systems for automation.

. Training of national staff through study tours/fellowships in the following areas

	Activity	Location	Starting date	Duration
(i)	Study tour of the National Project Director for on-the-spot study of the various facilities available in similar sectors and industrial units manufacturing laboratory equipment, domestic appliances and Process Instruments	U.S.A./ Japan/ Europe	June 1983	2 months
(ii)	Training of a Joint Director in Process Control Instruments Evaluation	-do-	Jan. 1984	4 months
(iii)	Training of a Joint Director in Product and process development of Domestic Appliances	-do-	June, 1984	4 months
(iv)	Training of a Deputy Director in Household Appliances	-do-	June, 1984	4 months
(v)	Training of a Deputy Director in Low-cost Instruments development	-do-	June, 1984	4 months
(vi)	Training of a Deputy Director in Manufacturing Techniques (Tool Room Activities)	-do-	April 1984	4 months
(vii)	Training of an Assistant Director in Modern Tooling Methods	-do-	June 1984	4 months

	Activity	Location	Starting date	Duration
(viii)	Training of an Assistant Director in Electronic Process Instruments testing	U.S.A./ Japan/ Europe	August 1984	4 months
(ix)	Training of an Assistant Director in Domestic Appliances evaluation	-do-	September 1984	4 months
(x)	Training of an Assistant Director of Reliability Evaluation of electronic instruments	-do-	September 1984	4 months
(xi)	Training of an Assistant Director in Tooling Methods	-do-	January 1985	4 months
(xii)	Training of an Assistant Director in Development of Low-Cost Instruments and Systems	-do-	January 1985	4 months
(xiii)	Training of a Senior Technical Assistant in Quality Control of Low-cost Instruments	-do-	January 1985	4 months
(xiv)	Training of a Senior Technical Assistant in Quality Control of Domestic Appliances	-do-	January 1985	4 months
(xv)	Group training of 4 engineers on Basic Microprocessor Design Philosophy	-do-	November 1984	4 weeks

Project Outputs

Dec. 1982 - May 1983

CALIBRATION & TESTING LABORATORY

		DEC.	JAN.	FEB.	MARCH	APRIL	MAY
1.	No. of Instruments Tested	100	118	61	120	76	52
2.	REVENUE EARNED (in Rs.)	21,855.00	21,995.00	14,065.00	19,740.00	14,460.00	14,485.00
3.	No. of units Assisted	16	14	8	15	19	13

PROCESS CONTROL INSTRUMENTS LABORATORY

1.	No. of Instruments Tested	20	7	14	18	22	11
2.	REVENUE EARNED (in Rs.)	5,495.00	4,800.00	6,725.00	5,850.00	5,600.00	6,250.00
3.	No. of units Assisted	7	4	5	9	7	4

WORKSHOP

1.	Tooling	5	6	7	5	9	-
2.	Partial Tooling	-	1	1	2	3	4
3.	Misc. Jobs	4	7	17	17	8	9
4.	REVENUE EARNED (in Rs.)	1,31,859.00	1,18,211.00	1,01,908.10	1,33,582.00	90,416.00	72,659.00
5.	No. of units Assisted	7	13	14	17	13	8

		DEC.
1.	Tool Design	4
2.	Part Drawing	10
3.	Miscellaneous	3
4.	No. of units Assisted	6

1.	No. of Trg. Programmes conducted	-
2.	No. of participants attended	-
3.	No. of units assisted	-
4.	REVENUE EARNED (in Rs.)	-

1.	No. of projects under progress	8

TOOL DESIGN

JAN.	FEB.	MARCH	APRIL	MAY
1	2	1	2	2
5	2	7	6	25
4	1	2	4	1
5	3	4	6	3

TRAINING ACTIVITIES

1	2	1	2	2
5	12	14	27	27
5	12	14	25	18
3,000.00	7,100.00	8,400.00	10,800.00	8,100.00

DESIGN & DEVELOPMENT

9	9	9	9	9

List of units availing services of the Institute from Dec. 82 to May 83.

	Name of the Unit	Field of assistance
1.	Ubah Electrical Instruments Co., Bombay	C & T
2.	P.G. Electronics, Bombay	"
3.	PAC Engineering, Bombay	"
4.	Mistry Prabhudas Manji, Bombay	"
5.	Bharat Bijlee Ltd., Thane	"
6.	Alpha Dynamic Products Pvt. Ltd., Bombay	"
7.	Zaran Trading Agency, Bombay	"
8.	Hina Power Products, Bombay	"
9.	New India Electric Corpn., Bombay	"
10.	Asian Cables Corpn. Ltd., Thana	"
11.	Premier Industries, Bombay	"
12.	Morarji Dorman Smith Pvt. Ltd., Bombay	"
13.	Stead Electronic Industries, Delhi	"
14.	Western Railway, Bombay	"
15.	Universal Electrics Ltd., Faridabad	"
16.	Ancilab Incorporated, Bombay	D & D
17.	Instrumentation Ltd., Palghat	D & D & Workshop
18.	P.P.E.D., Bombay	"
19.	Peico Electronics & Electricals Ltd.	Workshop
20.	Rapid Mfg. Co.	"
21.	Metzer (India) Optical Instrument	"
22.	Precision Press Tools	"
23.	Bombay Brush (Belgaum) Pvt. Ltd.	"
24.	Pla Electro Appliances	"

	Name of the Unit	Field of assistance
25.	Cyratron International, Bombay	P.C.I.
26.	O.N.G.C., Bombay	"
27.	Udey Pyrocables Pvt. Ltd., Bombay	"
28.	Indian Institute of Packaging, Bombay	"
29.	Flow Temp. Appliances (P) Ltd, Bombay	"
30.	Tradeweld Bombay (P) Ltd., Bombay	"
31.	Central Electronics, New Delhi	T.D.
32.	Rotadyn Electric Co., Poona	"
33.	Bombay Brush Pvt. Ltd., Baroda	"
34.	A.T.E. Pvt. Ltd., Bombay	"
35.	National Supply Industries, Bombay	"
36.	Hindustan Lever Ltd., Bombay	Training
37.	Batliboi & Co. Ltd., Bombay	"
38.	A.R.D.E., Pune	"
39.	Standard Alkali, Thane	"
40.	R.C.F. Ltd., Bombay	"
41.	Automatic Electric Co., Bombay	T.D.
42.	Bombay Doordarshen Kendra	"
43.	Sharad Industries	Workshop
44.	Prestige Counting Instruments	"
45.	Component Technique	"
46.	Mutual Engineering	"
47.	Oriental Colour Lab.	"
48.	Blue Star Ltd.	"
49.	Hindustan Organic Chemicals Ltd.	"
50.	Bavis Engg. Co.	"
51.	Tata Burroughs Ltd.	"
52.	Elemech Industries	"

	Name of the Unit	Field of assistance
53.	Agrawal Electronics, Bombay	C & T
54.	National Wire & Metal Industries, Bombay	"
55.	Genelec Ltd., Bombay	"
56.	Hi-Power Engg. Co., Bangalore	"
57.	Nippen Electrical Instruments, Co., Bombay	"
58.	Udeyraj & Sons, Bombay	"
59.	Ralliwolf	"
60.	ELM Components, Bombay	"
61.	SU Motors Pvt. Ltd., Bombay	"
62.	Bajal Engg. Co., Bombay	"
63.	Spin. Instruments, Poona	"
64.	Optinohar Industries Pvt. Ltd., Bombay	P.C.I.
65.	Measurement & Control, Bombay	"
66.	Precision Instruments (INDIA), Kalyan	"
67.	Meltron, Bombay	D & D
68.	Rotadyn Electric Co., Chinchwad	"
69.	Ghanshyam Radio & Electronic Corpn., Kalyan	Training
70.	Hindustan Antibiotics Ltd., Pune	"
71.	Mangesh Enterprises, Thane	"
72.	Tarapur Atomic Power Station, Tarapur	"
73.	Export Inspection Agency, Bombay	"
74.	Pioneer Electricals & Telephone (Mfrs), Amritsar	"
75.	Electrons Devices, Kanpur	D & D
76.	Narhari Engg. Works, Bombay	C & T
77.	H.S. Gujral, Bombay	"
78.	Gupta Traders, Bombay	"
79.	Maritronix, Bombay	"
80.	Siemens, Bombay	"

	Name of the Unit	Field of Assistance
81.	Crompton Greaves Ltd., Bombay	Training
82.	National Rayon Corpn., Kalyan	"
83.	Indian Aluminium Co. Ltd., Thane	"
84.	A.C.C. Ltd., Bombay	"
85.	I.H. Shah & Associates, Bombay	"
86.	Eastern Railway, Calcutta	"
87.	Electronic Assistance Co., Bombay	"
88.	Calico Industrial Engineers, Bombay	"
89.	Indian Drugs & Pharmaceuticals Ltd., Hyderabad	"
90.	Electro Games (Bombay) Pvt. Ltd. Bombay	"
91.	Marathey Consultronics, Bombay	"
92.	Indian Petro Chemicals Ltd., Baroda	"
93.	Narmada Cement Co. Ltd., Jabrabad	"
94.	Tecknic Controls Tecknic Industries, Bombay	T.D.
95.	Dhoot Instrument Pvt. Ltd., Bombay	"
96.	XLO India Ltd.	Workshop
97.	Arora Plastics Pvt. Ltd.	"
98.	Nirman Weiner	"
99.	NELCO	"
100.	Winstronix, Bombay	P.C.I.
101.	Gammon Pressure	"
102.	Greaves Cotton Co. Ltd., Nasik	"
103.	Techno Controls Engineers, Bombay	"
104.	CAFI Ltd., Thane	"
105.	Patel Engg. Works, Bombay	"
106.	Aurora Engg. Co., Bombay	"
107.	Shiv Industries, Bombay	"
108.	Bharat Petroleum Corpn., Bombay	"
109.	Everest Kanto Cylinders (P) Ltd., Bombay	"
110.	Reliance Heat Transfer (P) Ltd., Bombay	"
111.	MEDITRONICS Corpn. of India, Bombay	D & D

	Name of the Unit	Field of Assistance
112.	Excelsior Engineering Works, Bombay	T.D.
113.	Scooter India Ltd., Lukhanow	"
114.	Weston Instruments, Bombay	C & T
115.	Rail India Techn. & Eco. Service Ltd., Bombay	"
116.	Electronic Components Mfg. Co., Bombay	"
117.	Electrical Instruments Co., Bangalore	"
118.	Universal Electricals, Faridabad	"
119.	Cable Corpn. of India Ltd., Bombay	"
120.	National Instruments, Calcutta	Workshop
121.	ASEA Ltd., Nasik	"
122.	Topex Corporation	"
123.	Kipril Products	"
124.	Modison Metal Refiners	"
125.	Alkyl Chemical Amines Ltd.	"
126.	Central Electronics Ltd.	"
127.	Rank Instruments & Controls, Bombay	C & T
128.	Indcoil Transformers Pvt. Ltd., Bombay	"
129.	Ruttonsha Simpson Pvt. Ltd., Bombay	"
130.	Crompton Greaves Ltd., Ahmednagar	"
131.	Electro Heat, Bombay	"
132.	Analog Electric Co., Bombay	"
133.	Indel Enterprises, Bombay	"
134.	Digital Control Equipments, Bombay	"
135.	Naval Aeronautical Inspection Service, Cochin	Training
136.	Solaris Corpn., Bombay	"
137.	Autel, Badlapur	"
138.	Electronic Enterprises, Bombay	"
139.	Genelect Ltd., Bombay	"
140.	R.G. Keswani Industries, Bombay	"
141.	Hind Rectifiers Ltd., Bombay	"
142.	The Thana Electric Supply Co. Ltd., Hyderabad	"
143.	MDS Loadster (Morarji Dorman Smith) Pvt. Ltd., Jalgaon	"
144.	Larsen & Toubro Ltd., Bombay	"
145.	Dalmia Construction Co., Bombay	"

	Name of the Unit	Field of Assistance
146.	Emco Electronics, Bombay	Training
147.	Voltas Ltd., Bombay	"
148.	Automatic Electric Ltd., Bombay	"
149.	Pressure Cooker & Appliances, Pune	"
150.	Universal Industrial Products, Bombay	"
151.	Indian Oil Corpn. Ltd., Jawaharnagar	"
152.	Armament Research & Development Estt., Pune	"
153.	Institute of Armament Technology, Pune	"
154.	Adroit Controls, Ahmedabad	"
155.	Wheel & Axle Plant, Bangalore	"
156.	Mukand Iron & Steel Works Ltd., Bombay	"
157.	Explosives Research & Development Lab., Pune	"
158.	Industrial Meters Pvt. Ltd.	Workshop
159.	ASEA Ltd.	"
160.	Meco Instruments Pvt. Ltd.	"
161.	International Computers India Mfg. Ltd.	"
162.	Bhole Consultancy & Services, Poona	"
163.	Dept. of Chemical Technology, Bombay	"
164.	Bharat Diamond Industries, Bombay	"
165.	Air Coil Mfg. Co.	P.C.I.
166.	Brooks Cable Works	"
167.	Vijay Fire Protection Systems	"
168.	Electro Lytic Mangenese Co. (Union Carbide)	"
169.	Techomos Miki-Engg. & Mfg. Co., Bombay	T.D.
170.	Vinpro Pvt.Ltd., Bombay	"
171.	Indian Oil Corporation Ltd., Mathura	Training
172.	Tata Electric Co., Bombay	"
173.	Vijaya Precisionist, Bombay	"
174.	Industrial Meters Pvt. Ltd., Bombay	"
175.	Pankaj Electricals, Bombay	"
176.	Bradma of India Ltd., Thane	"
177.	Jyoti Ltd., Baroda	"
178.	Archtech Labs., Bombay	"
179.	Afcoset, Bombay	"

	Name of the Unit	Field of Assistance
180.	Vijay Fire Protection Systems (P) Ltd.	P.C.I.
181.	Burroughs Welcome & Co. (India) Pvt. Ltd.	"
182.	Crompton Greaves Ltd., Ahmednagar	C & T
183.	Strom-Kraft Controls, Bombay	"
184.	Rudraskakti Electronics	"
185.	Vinpro Pvt. Ltd.	Workshop

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UNIDO MANAGED DEVELOPMENT PROGRAMME

PRIPARTORY REVIEW MEETING

IND/82/002 - EVALUATION AND PRODUCT-CUM-PROCESS DEVELOPMENT CENTRE AT IDEMI, BOMBAY

(For Period December 1982 to May 1983)

INTRODUCTION

The review meeting was held at IDEMI, Bombay on 27 May 1983 and was attended by the following:

Government of India

1.	Mr. B. Majumdar	Industrial Adviser (Electrical and Electronics)

IDEMI

2.	Mr. P.K. Krishnamurthi	Principal Director IDEMI

UNDP/UNIDO

1.	Mr. A. Krasiakov	Senior Industrial Development Field Adviser
2.	Mr. I. Petrov	Chief Technical Adviser
3.	Mr. Sat Pal	Assistant Programme Officer

Prior to the meeting the UNDP/UNIDO representatives were shown round the laboratories and workshops of the Institute to acquaint them with the facilities set up over the last six months including the Testing and Calibration laboratory, Process Control Instrument laboratory, Design and Development laboratory,

...2

Tool Design section and Tool Manufacturing shop. The equipment already received has been installed and commissioned. The participants also visited a factory engaged in the manufacture of electronic balances and portable electronic cardioscopes. IDEMI is providing assistance to this unit in manufacturing fine mechanical parts for electronic balances. This was followed by the Tripartite Review Meeting.

The Project document, the six-monthly progress report and the revised work plan prepared by the CTA were used as reference documents for the review meeting.

1. Mr. B. Majumdar was requested to chair the meeting and conduct the proceedings.

2.(a) Prof. I. Petrov, Chief Technical Adviser, gave a brief account of the activities of the project carried out during the reporting period. He informed the meeting that the re-orientation of the present facilities including large-scale re-construction work have been completed. Out of the 67 items of equipment ordered by UNIDO, 60 items have already been received and are being used in the various laboratories and the workshop to provide assistance to the industry in the areas of testing and calibration, design and tool manufacture, training of engineers from the industry. The equipment now available with the IDEMI will enable it to provide specialised services to the industry in terms of critical tooling, and calibration facilities for instruments requiring higher order of accuracies.

(b) The meeting agreed that the immediate objectives of the project as originally set out in the project document are still valid and do not require any changes.

.. 3

A proposal contemplating certain changes in the outputs and activities of the project was discussed in the meeting. Pursuant to the discussion Mr. Krasiakov said that the proposal needed to be considered more thoroughly and suggested that it may be deferred for consideration future tripartite review meeting.

(c) The proposals contained in the Revised Work Plan prepared by the CTA contemplating certain changes in the personnel, training and equipment components of the project were discussed in detail. The meeting agreed to recommend the following changes:

Personnel

To increase the number of international experts from 5 to 8 and the total man-months from 32 to 40 as follows:

	Post Title	Duration
1.	Chief Technical Adviser	8 (4+2+2)
2.	Expert in Instrument Design	4
3.	Expert in Microprocessor Instruments Design & Development	4
4.	Expert in Quality Control & Reliability Evaluation procedures	4
5.	Expert in Tool Design	5
6.	Expert in Domestic Appliances Design	4
7.	Expert in Tool Manufacture	3
8.	Expert in High Pressure Digital Pneumatic Instruments	8

.. 4

Conclusions and Recommendations

In the light of the discussions held, the tripartite review meeting agreed to make the following recommendations:

1. An increase of $ 217,000 in the UNDP inputs to cover the cost of additional 8 man-months in the expert component, 30½ man-months in the training component and funds for procurement of additional items of equipment.

2. Necessary budget revision to reflect the allocation of additional funds should be prepared and procured for approval through the Ministry of Industry, Department of Economic Affairs and UNDP.

3. Based on the revised job descriptions, UNIDO should identify suitable candidates for the post of experts to be assigned to the project in 1984 and submitted their nomination for consideration by the Government.

4. Completed nomination forms of candidates to be deputed for fellowship, training in 1984 should be submitted by the Project authorities officially through the Ministry of Industry well in advance to enable UNIDO headquarters to make appropriate placement arrangements.

UNITED NATIONS DEVELOPMENT PROGRAMME

PROJECT REVISION

COUNTRY : INDIA

PROJECT TITLE : Evaluation and Product-cum-Process Development Centre at IDEMI, Bombay.

PROJECT NO. : IND/82/002/C/01/37

Government requested that the budget of the above project be revised:

1) to rephase the 1983 inputs, not likely to be implemented during this year, into the future years.

2) to make provision of funds for additional 8 man-months in the personnel component budget line 11.

3) to make provision of funds for additional 26 man-months in budget 31 and 4½ man-months budget line 32 under the training component.

4) to provide additional $ 71,600 in the equipment component budgetline 49 for the procurement of essential items of equipment.

The change to the project budget - UNDP input is as follows:

Previous UNDP input - budget code 'B'	$ 1,020,000 (line 99 total)
Review UNDP input - Budget code 'C'	$ 1,237,000 (line 99 total)
UNDP input - increase	$ 217,000

Signed:

On behalf of the Government — Date

On behalf of the Executing Agency — Date

On behalf of the UNDP — Date

Country : INDIA

Project No : IND 82/002/C/01/37

Title : Evaluation and Product- cum-Process Development Centre.

PROJECT BUDGET COVERING UNDP CONTRIBUTION

(IN U. S. DOLLARS)

		TOTAL		1982		1983		1984		1985							
		m/m	$	m/m	$	m/m	$	m/m	$	m/m	$	m/m	$	m/m	$	m/m	$
10	PROJECT PERSONNEL																
11	International Professionals																
11-01	Chief Technical Adviser	8	53,100			4	25,000	2	13,500	2	14,600						
11-02	Expert in Instrument Design	4	29,200							4	29,200						
11-03	Expert in Microprocessor Instr. Design & Dev.	4	27,000					4	27,000								
11-04	Expert in Quality Control & Reliability Evaluation Procedures	4	27,000					4	27,000								
11-05	Expert in Domestic Appliances Design	4	27,000					4	27,000								
11-06	Expert in Tool Design	5	33,750					5	33,750								
11-07	Expert in Tool Manufacture	3	19,250			2	12,500	1	6,750								
11-08	Expert in High Pressure Digital Pneumatic Instruments.	8	54,000					8	54,000								
11-10																	
11-50	Consultants																
11-99	SUB-TOTAL	40	270,300			6	37,500	28	189,000	6	43,800						
13	Admin. Support Personnel																
15	Travel Cost		6,000				900		4,200		900						
16	Other Cost		11,200				5,600		-		5,600						
18	Prior Year's Adjustments		-														
19	COMPONENT TOTAL		287,500				44,000		193,200		50,300						

Country: INDIA
Project No: IND/ 82/ 002/C/01/37
Title:

PROJECT BUDGET COVERING UNDP CONTRIBUTION
(IN U.S. DOLLARS)

		TOTAL	1982	1983	1984	1985			
		$	$	$	$	$	$	$	$
20	SUBCONTRACT								
21	Subcontracts								
28	Prior Yr. Adjustments								
29	COMPONENT TOTAL								
30	TRAINING								
31	Fellowships	116,000			79,200	36,800			
32	Group Training	29,500		7,500	22,000				
38	Prior Yr. Adjustments								
39	COMPONENT TOTAL	145,500		7,500	101,200	36,800			
40	EQUIPMENT								
41	Expendable Equipment	50,000		15,000	30,000	5,000			
42	Non-expendable Equipment	743,000	380,842	200,000	117,158	43,000			
48	Prior Yr. Adjustments								
49	COMPONENT TOTAL	793,000	382,842	215,000	147,158	48,000			
50	MISCELLANEOUS								
51	Miscellaneous	11,000	2,000	3,000	3,000	3,000			
59	COMPONENT TOTAL	11,000		3,000	3,000	3,000			
99	PROJECT TOTAL	1,237,000	384,842	269,500	444,558	138,100			

EVALUATION AND PRODUCT-CUM-PROCESS DEVELOPMENT CENTRE AT IIEMI

DP/IND/82/002
INDIA

Work Plan

TABLE OF CONTENTS

3. ANNEXES

1. Gant chart for Output No. 1 - Capability to provide design, testing, evaluation and training on electronic, process control, domestic appliances & low-cost instruments.

2. Gant chart for Output No. 2 - Capability to design and manufacture tools for the needs of small scale industries.

3. Building - Bar chart

4. Local Personnel Recruitment - Bar chart

5. Training Abroad - Time Schedule

6. Equipment - Bar chart

7. International Experts - Time Schedule

8. Time Schedule for the work-visits at UNIDO-Vienna by the National Project Director.

4. ABSTRACT

The Work Plan is prepared according the Project Revision Document.

The major outputs are as follows:

Output No. 1: Capability to provide design, testing evaluation and training on Electronic, Process Control, Domestic Appliances and low-cost Instruments. Completion March 1985.

Output No. 2: Capability to design and manufacture tools for the needs of small scale industries. Completion November 1984.

The activities are described, milestones established.

The illustrations are performed by Gant-chart (Annex 1 & 2), supported by Bar-chart for the corresponding sub-activities.

The Progress Reports are scheduled every six months.

The first draft of the Final Report is planned for April, 1985.

Tripartite Review Missions are planned in January, 1984 & January 1985.

5. THE WORK PLAN

5.1 General

The Work Plan was prepared following the instructions, outlined in the basic documentation recommended by UNIDO.

The Work Plan is prepared according to the Project Revision Document.

5.2 Outputs

The outputs of the project are identified as follows:

Output No. 1

Capability to provide design, testing, evaluation and training on electronic, process control, domestic appliances and low-cost instruments.

The completion is estimated end of March, 1985. It is important to keep strictly this milestone, in order to meet the project document final date of completion, as well as to establish the necessary conditions for concluding contracts for providing services to industry during 1985.

The Gantt chart is attached as Annex 1.

Output No. 2

Capability to design and manufacture tools for the needs of small-scale industries.

For production of these outputs the necessary realistic inputs and activities are planned. The major milestones are developed and fixed up.

The Gantt chart is attached as Annex 2.

The completion is estimated end of November, 1984, thus establishing the necessary conditions for concluding contracts for providing services to the small-scale industries.

5.3 Activities

5.3.1. Activities for Output No. 1

Capability to provide Design, Testing, Evaluation and Training on Electronic, Process Control Domestic Appliances, and low-cost Instruments.
Completion March, 1985.
The activities are performed and described in Gantt-chart, Annex 1.

The major activities, sub-activities and milestones are as follows:

A. Reorienting the present facilities.

It was considered that certain space could become available by re-conditioning of the sunk floor in the workshop and main office building of this Institute to facilitate suitable erection of laboratory equipments and workshop machineries received in the frame of this project.

These activities have to be completed in June 1983 (Annex 1 and Annex 3).

B. Civil Construction

Civil construction to take place to have one more floor raised in the present Administrative Building, thus obtaining extra space required for the laboratories. The major milestones (Annex 1) are as follows:

B.1 - Obtained budget approval by the Government by end of June 1983.

B.2 - Completed contract for re-construction, end of August 1983.

B.3 - Interior completed end of May 1984.

C. Staff Recruitment

The recruitment of national staff has to be completed end of October, 1983. Detailed list of staff and appointment time schedule is given in Annex 4.

D. Training of staff abroad

The training of national staff abroad has to be completed end of April, 1985 (Annex 2). A detailed Time Schedule for the training is prepared (Annex 5).

E. Equipment Supply

A detailed Bar chart for the equipment supply is performed in Annex 6. The major milestones are as follows:

- All Purchase Orders have to be placed by end of December, 1984.

- All equipments have to be commissioned not later than March 1984.

F. International Experts

The major milestone are stipulated in a way to mark the international experts' arrival on post.

The experts arrival on post is co-ordinated with the appointment of corresponding national staff members, the equipment supply and the terms for Output planned. The details for International Experts are given in Annex 7.

G. Industrial Demand Survey

In order to start providing services to the local industries, an industrial survey has to be carried out by the National Project staff in co-operation with the International Experts.

The major milestones are:

- Questionnaires prepared by the end of July, 1984.
- Survey completed and number of contracts for Industry Services for 1985 concluded by the end of March, 1985.

5.3.2 Activities for Output No. 2

Capability to design and manufacture tools for the need of small scale industries. Completion November, 1984. The activities are performed and described on Gant-chart, Annex 2.

The major activities, sub-activities and milestones are as follows:

A. Re-orienting the present facilities.
No civil constructions are required for the tool room facilities. The problem will be solved by re-orienting the present facilities. This re-orientation is already thoroughly planned and has to be completed in June, 1983 (Annex 3)

B. Staff Recruitment
The recruitment of national staff has to be completed by the end of October, 1983 (Annex 2). Detailed time schedule for appointment of the national staff is given in Annex 4.

C. Training of staff abroad
The training of national staff abroad on design and manufacturing of tools has to be completed end of April, 1985 (Annex 2). A detailed Time Schedule for the training is prepared (Annex 5).

D. The International Expert
International Experts on tool design and manufacture are to be on post 1st November, 1983 for 3 months, respectively 1st August, 1984 for 5 months. Details are given in Annex 7.

E. Equipment Supply
A detailed Bar chart for the tool room equipment is performed in Annex 6. The major milestones are as follows:

- Purchase Orders placed, November 1983.
- Equipments commissioned, June 1984.

F. Industrial Demand Survey
This survey has to be carried out by the National Project staff in co-operation with the International Expert. The major milestones are:

- Questionnaries prepared by end of April 1984.
- Survey completed and number of contracts for industry surveys for 1985 completed by the end of November, 1984.

5.4 National Project Director's visits to UNIDO

For the purpose of close co-operation between the National staff and UNIDO, enabling smooth development of the project activity, several visits of the National Project Director are planned to UNIDO, Vienna. His first visit will take place in July, 1983 during his study tour.

The second visit is planned in June, July, 1984.

The third visit is planned in March, 1985.

Details are given in Annex 8.

6. REPORTS

The following reports for the project development have to be prepared by the National Project staff:

- Progress Reports : 30th June, 1983
  30th of December 1983
  30th of June 1984
  30th of December 1984

- Self-evaluation Report : July 1983

- Final Report : 30th of April, 1985.

7. TRIPARTITE REVIEW MISSION

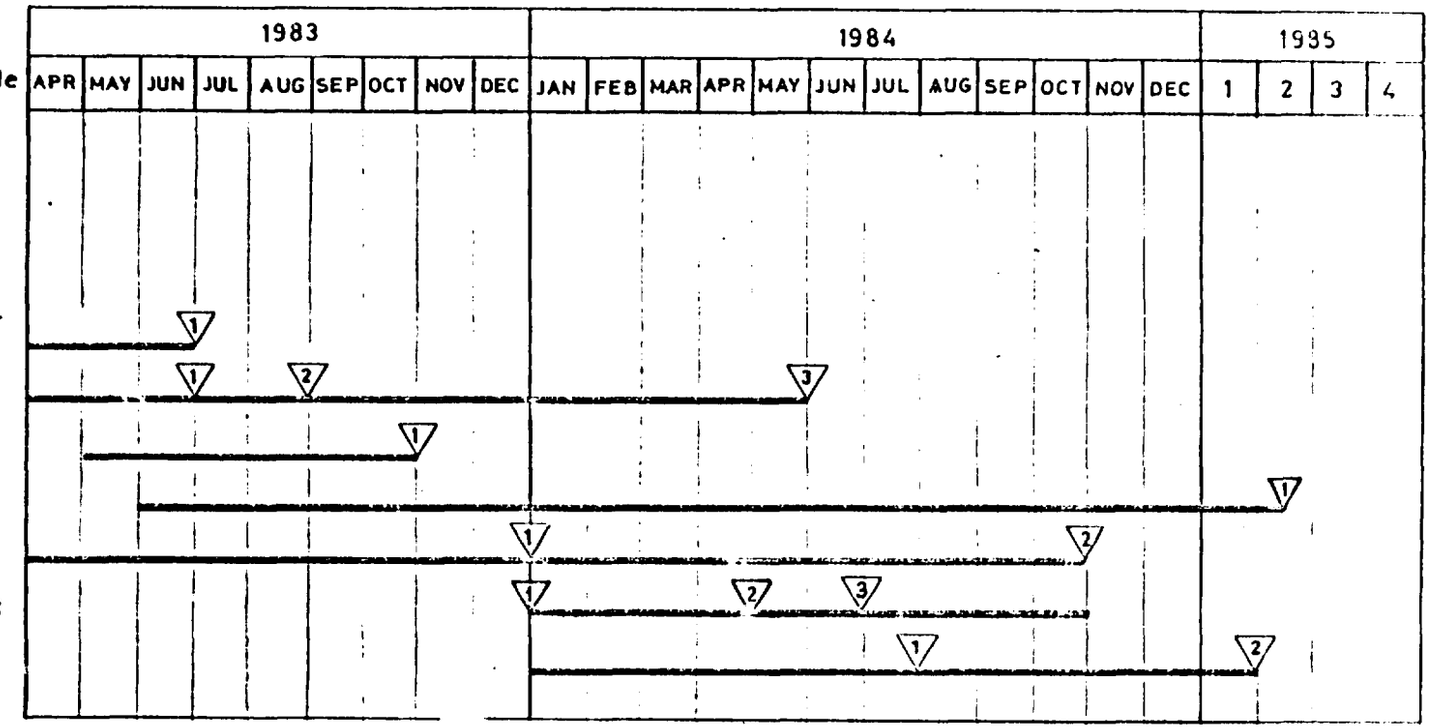
The following tripartite review mission are proposed:

1. January 1984
2. January 1985

8. EVALUATION

The project will be subject to evaluation in correspondence with the policies and procedures established for the purpose by UNDP. The Organization, terms of reference and timing of the evaluation will be decided by consultation between the Government, UNDP and Executive Agency.

OUTPUT NO.1 GANTT CHART



Output NO.1 Capability to provide design, testing, evaluation and training on electronic process control, domestic appliances & low-cost instruments.

Activities

Milestones

A.1 = Interior completed

B.1 = Obtained budget approval by the Government

B.2 = Contract for reconstruction completed

B.3 = Interior completed

C 1 = National staff recruited
Note: For detailes see Annex. 4

E.1 = All P.O. placed

E.2 = All equipments commissioned
Note: For details see Annex. 6

F.1a = Experts in Microprocessor Instruments D&D

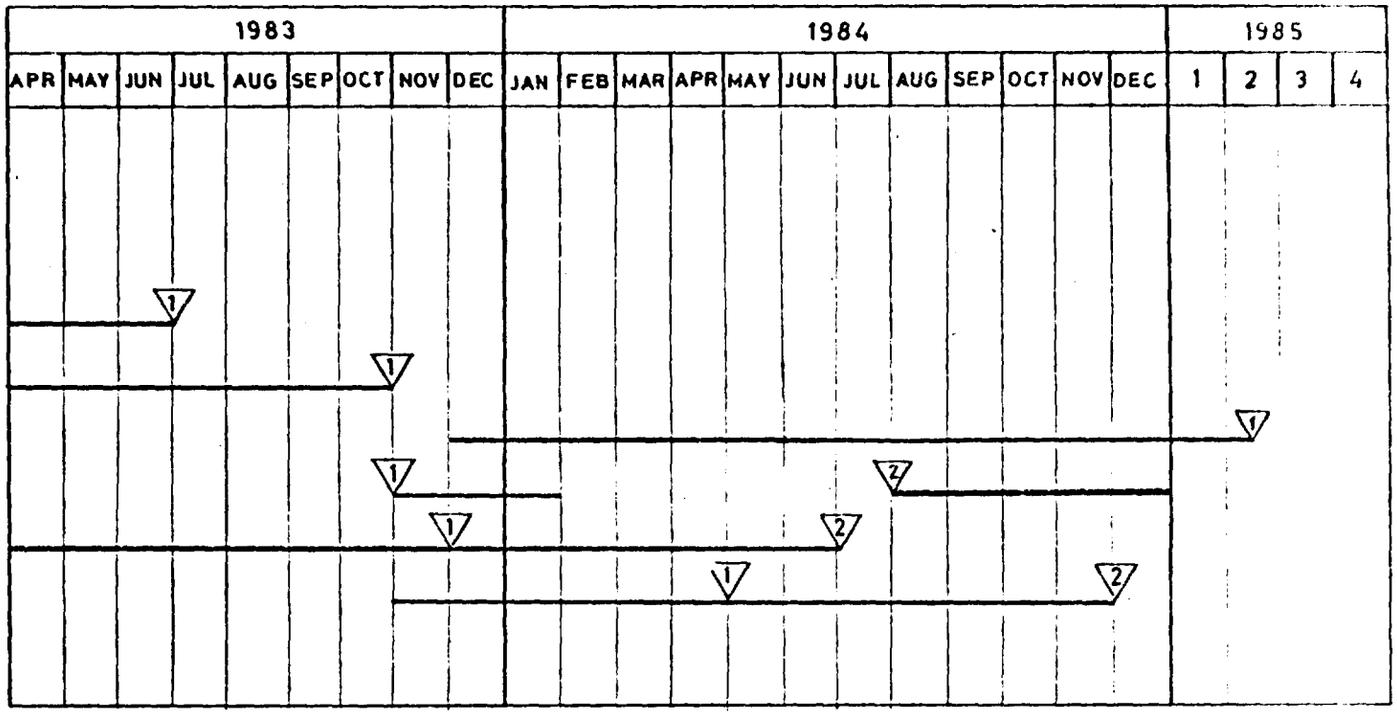
F.1b = Experts in Quality Control & Reliability Evaluation Procedures

F.2 = Experts in High Pressure Digital Pneumatic Instruments

G.1 = Questionnaires prepared

G.2 = Contracts for Industry Services for 1985 concluded

OUTPUT NO.2 GANTT CHART



Output NO.2 Capability to design and manufacture tools for the needs of small scale industries

Activities

A Reorienting the present facilities

B Staff recruitment

C Training of staff abroad

D International expert on post

E Equipment supply

F Industrial demand survey

Milestones

A.1 = Interior completed

B.1 = National staff recruited
Note: For details see Annex. 4

C.1 = National staff trained abroad
Note : For details see Annex. 5

D.1 = Expert on Tool

E.1 = P. O. placed

E.2 = Equipment commissioned
Note : For details see Annex. 6

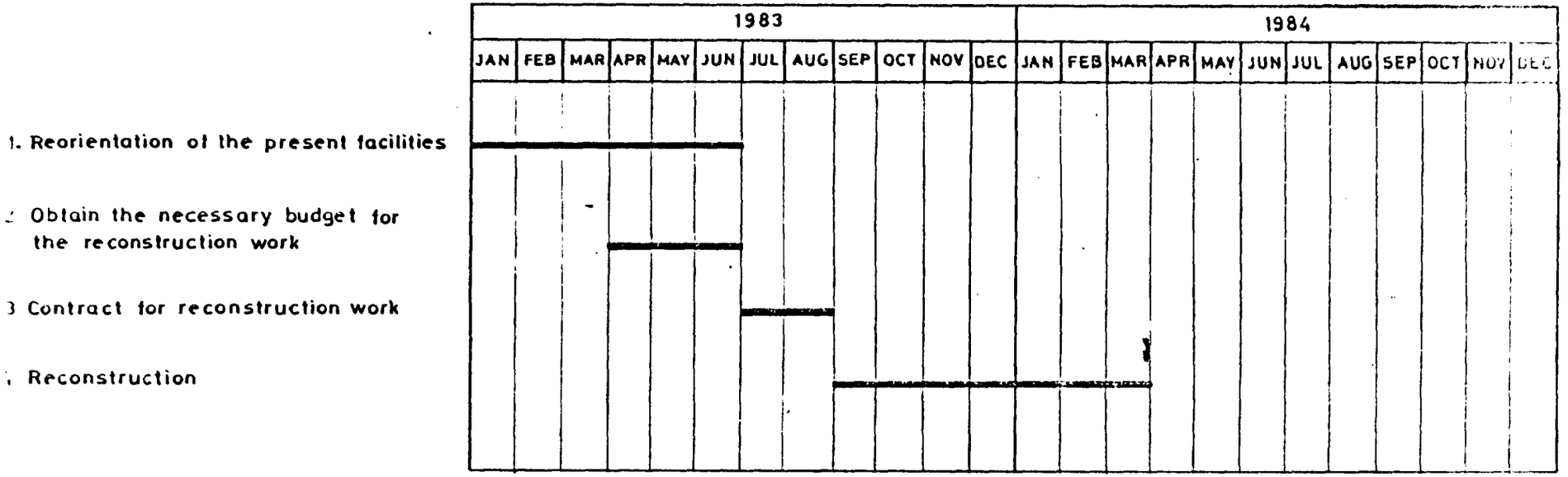
F.1 = Questionnaires prepared

F.2 = Contracts for Industry Services for 1985 concluded

BUILDING - BAR CHART

ANNEX- 3

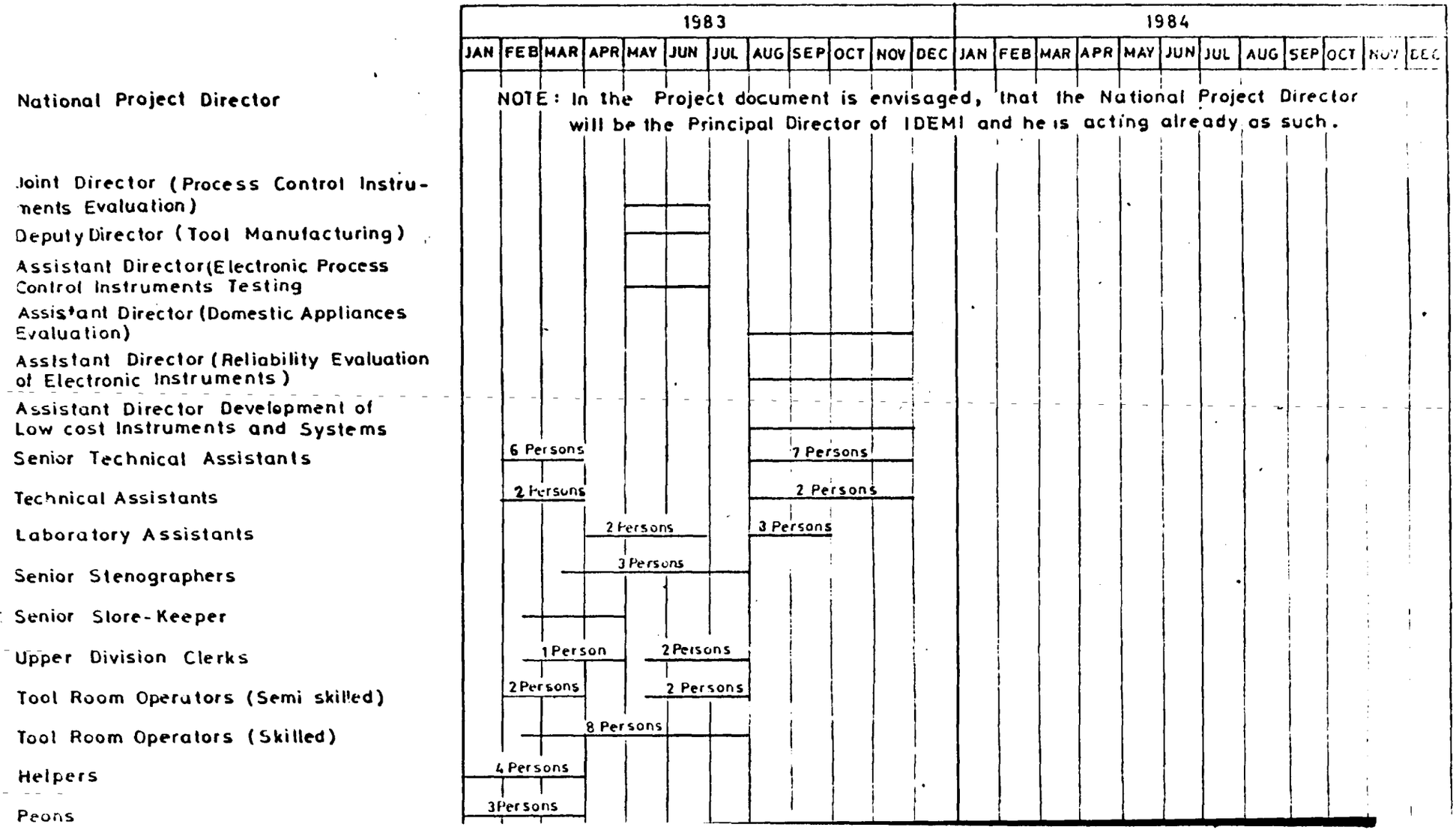
DP/IND/82/002 - WORK PLAN



LOCAL PERSONNEL RECRUITMENT - BAR CHART

ANNEX. 4

DP / IND / 82 / 002 WORK - PLAN



Annex 5

DP/IND/82/002-WORK PLAN

TRAINING ABROAD

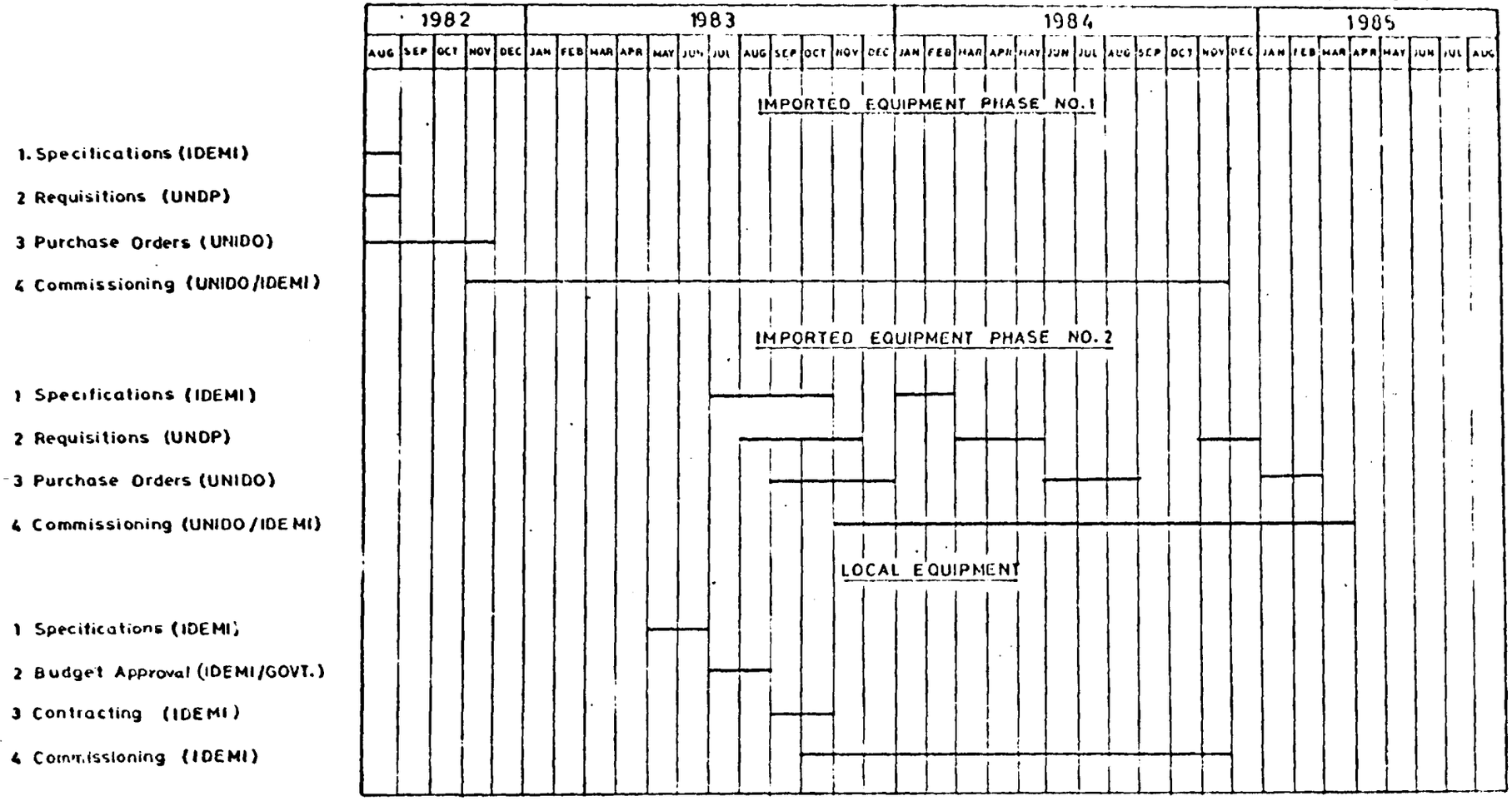
TIME SCHEDULE

	Activity	Location	Starting date	Duration
(i)	Study tour of the National Project Director for on-the-spot study of the various facilities available in similar sectors and industrial units manufacturing laboratory equipment, domestic appliances and Process Instruments.	U.S.A./ Japan/ Europe	June 1983	2 months
(ii)	Training of a Joint Director in Process Control Instruments Evaluation	U.S.A./ Japan/ Europe	January 1984	4 months
(iii)	Training of a Joint Director in Product and process development of Domestic Appliances	-do-	June 1984	4 months
(iv)	Training of a Deputy Director in Household Appliances	-do-	June 1984	4 months
(v)	Training of a Deputy Director in Low-cost Instruments development	-do-	June 1984	4 months
(vi)	Training of a Deputy Director in Manufacturing Techniques (Tool Room Activities	-do-	April 1984	4 months
(vii)	Training of an Assistant Director in Modern Tooling Methods	-do-	June 1984	4 months
(viii)	Training of an Assistant Director in Electronic Process Instruments testing	-do-	August 1984	4 months
(ix)	Training of an Assistant Director in Domestic Appliances evaluation	-do-	September 1984	4 months
(x)	Training of an Assistant Director of Reliability Evaluation of Electronic instruments	-do-	September 1984	4 months

	Activity	Location	Starting date	Duration
(xi)	Training of an Assistant Director in Tooling Methods	U.S.A./ Japan/ Europe	January 1985	4 months
(xii)	Training of an Assistant Director in Development of Low-Cost Instruments and Systems	-do-	January 1985	4 months
(xiii)	Training of a Senior Technical Assistant in Quality Control of Low-cost Instruments	-do-	January 1985	4 months
(xiv)	Training of a Senior Technical Assistant in Quality Control of Domestic Appliances	-do-	January 1985	4 months
(xv)	Group Training of 4 engineers on Basic Microprocessor Design Philosophy	-do-	November 1984	4 weeks

ANNEX. 6
OP/IND/82/002 WORK-PLAN

EQUIPMENT - BAR CHART



INTERNATIONAL EXPERTS

TIME SCHEDULE

	Activity	Location	Starting date	Duration (months)
1.	Chief Technical Adviser	Bombay	March 1983	8 (4+2+2)
2.	Expert in Instrument Design	Bombay	July 1984	4
3.	Expert in Microprocessor Instruments Design & Development	Bombay	January 1984	4
4.	Expert in Quality Control & Reliability Evaluation procedures	Bombay	January 1984	4
5.	Expert in Tool Design	Bombay	August 1984	5
6.	Expert in Domestic Appliances Design	Bombay	July 1984	4
7.	Expert in Tool Manufacture	Bombay	November 1983	3
8.	Expert in High Pressure Digital Pneumatic Instruments	Bombay	May 1984	8

TIME SCHEDULE

For the Work-visits at UNIDO - Vienna by the National Project Director.

1st Visit		June - July 1983	Duration: 10 days
	Note:	This visit will be combined with the Study Tour planned.	
2nd Visit		June - July, 1984	Duration: 10 days
3rd Visit		March, 1985	Duration: 10 days

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION (UNIDO)

PROJECT PROPOSAL

Project Title	:	International meeting on Small-Scale Industry-Institute Linkage with Reference to Instrumentation
Number	:	RP/IND/83/-
Primary function	:	Training
Secondary function	:	Direct support
Duration	:	One week
Sector(Govt. classification)	:	Industry
UNIDO classification	:	Industry
Sub-sector (Govt. classification)	:	Small Scale Industry
UNIDO classification	:	
Government Implementing Agency	:	Ministry of Industry through Institute for Design of Electrical Measuring Instruments (IDEMI), Bombay.
Executing Agency	:	United Nations Industrial Development Organization (UNIDO)
Estimated starting date	:	August 1983
UNIDO contribution	:	US $ 63,465
Government of India counterpart contribution(in kind)	:	Rs.108,000

Signed

_____ _____

(on behalf of the Government) Date

_____ _____

(on behalf of UNIDO) Date

PART - I

PART - II

THE PROJECT

A. Development Objectives:

The main objectives of the meeting will be to acquaint some 20 representatives from selected developing countries with the long years of proved experience of the Institute for Design of Electrical Measuring Instruments (IDEMI), Bombay in its co-operation with the Industries in India. The process of marketing, feasibility studies, design, testing and calibration linkage between the Institute and industries will be presented and discussed during the meeting. The very effective and successful implementation of a UNDP/UNIDO Project (DP/IND/82/002) will also be discussed.

B. Immediate Objectives

1) To analyse the Indian experience in the Industry-Institute's co-operation with Special Reference to Instrumentation by effective implementation of UNDP/UNIDO assistance.

2) To visit various laboratories and workshop of the Institute as well as some production units of Government and private industries, to see the linkage between the Institute and industry.

3) To compare the experience of the participating countries with the Indian experience in order to reach conclusions for more efficient organization in the participant's country.

4) To discuss ways and means of co-operation between the participating countries and the Institute for Design of Electrical Measuring Instruments both in using its highly qualified personnel, laboratories and facilities for training the fellows, and the role of UNIDO in this co-operation.

C. Special Considerations

In 1981 an International Meeting on the subject was organised by UNIDO and the Government of P.R. of Bulgaria with host organization the Institute for Instrument Design (IID) - Sofia, established by joint efforts of the Government of Bulgaria and UNDP/UNIDO.

This meeting proved to be extremely fruitfull, several Twining Agreements are signed between Institute for Instruments Design and Institutes in Cairo-Egypt, Bankok-Thailand, Damascus-Syria. Additional twinning agreements are under process to be concluded between IID and institutes in Jordan and Algeria. As a follow-up the Institute for Instrument Design was requested to provide and it did provide (in co-operation with UNIDO) expert assistance, training assistance and consultancy to the Thailand Institute for Technological Research-Bangkok, the National Organisation for Scientific Research-Algeria, Electronic Industries Research and Development Centre-Cairo, IDEMI-Bombay.

At this 1981 Meeting a unanimously desire was expressed by the participants UNIDO to continue to organise in the future such meetings, thus assisting the developing countries in better utilization of national resources in providing R & D, testing & calibration and training services to the growing national industries.

IDEMI-Bombay, implementing UNDP/UNIDO assistance is providing services to more than 300 industrial units in India, thus becoming almost self-sufficient organization. In this respect IDEMI-India is an excellent example for the developing countries.

D. Background and Justification

The Institute for Design of Electrical Measuring Instruments (IDEMI) was founded a decade ago by joint efforts made by United Nations Development Programme (UNDP) and the Govt. of India and United Nations Industrial Development Organization (UNIDO) as an Executing Agency. IDEMI is functioning as an autonomous body totally supported by the Department of Industrial Development, Ministry of Industry, Government of India.

Governing Council of IDEMI comprises of various representatives of Govt. of India, State Governments, Public and Private Sectors of the Industry.

IDEMI has come into it's being as a Service-to-the Industry Organization. Regardless of its marginal objectives it has slowly diversified its activities with the demands made by the times and situations. And by and now IDEMI has been serving Industries related to Electrical Measuring Instruments, Electrical Household Appliances, Process Control Instruments & Electronic Instruments. Not restricting to such industries, IDEMI has also been according assistance to large number of small scale organizations. IDEMI is maintaining a constant rapport with more than 300 units of the industry and broadly imparting the assistance in following categories:

1. Technical Consultancy in various aspects of Instrumentation.
2. Assistance in Design and Development of new Electronic Instruments.
3. Instrument testing and calibrating to the Standards.
4. Tool Design, Tool Making and other workshop facilities.
5. Technical Personnel Training at various levels.

These services are provided to the industry on commercial basis (by contracts) under which the Institute earns more than Rs.1.5 million per year (1 US $ = 9.7 Rupees), thus becoming self-sufficient organization. The Institute carry out a successfull implementation of a US $ 1 million UNDP Project setting up a dynamic Evaluation & Product-cum-Process Development Centre, offering on a commercial basis extremely valuable services to a large number of small-scale industries by testing, calibration, consultancy, design & development, training, tool design and tool production.

E. Outputs

Some 20 representatives from developing countries acquainted:

1. With the ways and means of organization of national resources of a developing country for establishing an Institute who provides highly qualified services to the growing national industry, utilising the UNDP/UNIDO assistance.
2. With modern laboratories and trained personnel capable to carry out large scope of activities (design & development, consultancy, testing & calibration, training) servicing more than 300 industry's undertakings throughout the country.

3. With the ways of cooperation with the growing number of small-scale industries suffering lack of sophisticated test and production equipment and employing low-skilled manpower.

F. Activities

Activity	Location	Starting date	Duration
1. Intimation official Government request for the Project	New Delhi	May 1983	1 month
2. Approval of the Project Document for the meeting by UNIDO Programming Committee	Vienna	June 1983	3 months
3. Work meeting at UNIDO for preparation of the final Aide-Memoire and Selecting the countries to be invited (Principal Director of IDEMI visits UNIDO for four days)	Vienna	December 1983	4 days
4. Distribution of the Invitation through UNDP Resident Representatives	Vienna	January 1984	1 month
5. Receiving applications from participating countries.	Vienna	May 1984	3 months
6. Final selection of the participants(UNIDO representatives visit IDEMI, Bombay)	Bombay	September 1984	5 days
7. Distribution of letters of Awards by UNIDO	Vienna	October 1984	1 month
8. Arrival of the participants	Bombay	19th Jan.1985	-
9. The meeting	Bombay	20th Jan.1985	5 days

6. Inputs

1. Government Inputs

The Government will provide through the implementing Agency the following inputs for the project:

- Local transportation
- Preparation of two contribution papers
- All conference facilities (including conference room, interpretation, reproduction of documents needed during the meeting and Secretarial services.

All contribution in kinds Rs.108,000

2. UNIDO Inputs

UNIDO will provide:

- Round trip air transportation for the participants between the airport of departure in the home country and Bombay airport. for 20 participants (2000 $ each)	US $ 40,000
- Round trip air transportation for IDEMI Principal Director's visit to UNIDO	US $ 2,000
- Round trip air transportation for UNIDO Secretariat's visit to IDEMI	US $ 4,000
UNIDO representatives (2 persons) to Bombay for Co-Chairmanship (for 3 persons 2000 $ each)	US $ 6,000
- DSA for 7 days for 20 participants (DSA 65 $ per day)	US $ 9,100
- DSA for 5 days visit to Vienna of IDEMI Principal Director (DSA 70$ per day)	US $ 350
- DSA for 5 days of UNIDO representatives visit to IDEMI for Selection of the candidates (DSA 65 $ per day)	US $ 650
- DSA for 7 days of UNIDO representatives visit to IDEMI for Co-Chairmanship (DSA 65 $ per day)	US $ 1,365
Total UNIDO Contribution ..	US $ 63,465

H. Preparation of Work Plan

The outlines of the Work Plan ares shown in the section F. Activities.

A detailed Work Plan will be prepared during IDEMI Principal Director visit at UNIDO, Vienna in December 1984.

The following contribution papers will be submitted for discussion at the International Meeting Small-Scale Industry-Research Institute Linkage with Special Reference to Instrumentation.

(i) Research Institute-Industry Linkage with Special Reference to Instrumentation.

Contributed by Mr. P.K. Krishnamurthi
Principal Director of IDEMI &
National Project Manager of
UNDP-UNIDO Project.

(ii) Testing & Calibration services to Small Scale Industries - a tool for improving of the Quality of the indigenous products.

Contributed by Joint Director of IDEMI

(iii) Successful implementation of UNDP/UNIDO Project with its Special Reference to the Project No.DP/IND/82/002 - Evaluation & Product-cum-Process Development Centre at IDEMI.

Contributed by : Prof. I. PETROV
UNIDO Chief Technical Adviser
DP/IND/82/002

(iv) UNIDO Experience in Industry-Research Institute's co-operation.

Contributed by: UNIDO Secretariate

Furthermore, a Round-Table discussion on efficient organization of the National Human Resources for the Development of the R & D and Industry Activity will be organised.

Directed by Dr. RAMANNA, Director, BARC

Assisted by P.K. KRISHNAMURTHI, Principal Director IDEMI

Visits to some selected Government and private Enterprises are scheduled in order to acquaint the participants with the organization and transfer of IDEAL services to industries, the difficulties encountered by these Enterprises in the productive phase and what has been done to overcome to these difficulties.

Part III

SCHEDULE OF MONITORING, EVALUATION AND REPORTS

The Project will be subject to periodic review in accordance with the policies and procedures established by UNIDO for monitoring the project implementation.

PROJECT BUDGET COVERING UNIDO CONTRIBUTION
(IN U.S. DOLLARS)

Country : INDIA
Project No. : RP/IND/83/-
Title : International Meeting Small-Scale Industry - Institute Linkage with Reference to Instrumentation.

	Total		1983		1984		1985	
	m/m	$	m/m	$	m/m	$	m/m	$
15. Travel cost		2,350		2,350		-		-
16. Other Cost		12,015		-		4,650		7,365
19. Component Total		14,365		2,350		4,650		7,365
32. Group Training		49,100		-		-		49,100
49. Component Total		49,100		-		-		49,100
99. Project Total		63,465		2,350		4,650		56,465

MEETING ON SMALL SCALE INDUSTRY -

RESEARCH INSTITUTE LINKAGE WITH SPECIAL REFERENCE TO INSTRUMENTATION

AIDE - MEMOIRE

1. BACKGROUND INFORMATION

The United Nations Industrial Development Organization(UNIDO) and the Government of India (Ministry of Industry) will organise a meeting on Small Scale Industry - Research Institute Linkage with Special Reference to Instrumentation in Bombay, 20 to 25 January, 1985.

The Institute for Design of Electrical Measuring Instruments (IDEMI) Bombay was designated as the Government Counterpart Agency to co-organise and to host the meeting.

This meeting is an unique opportunity to become acquainted with the excellent linkage between the Institute and industry, practised during the last 10 years.

The Institute for Design of Electrical Measuring Instruments was founded a decade ago by joint efforts made by United Nations Development Programme (UNDP) and the Govt. of India and United Nations Industrial Development Organization (UNIDO) as an Executing Agency. IDEMI is functioning as an autonomous body totally supported by the Department of Industrial Development, Ministry of Industry, Government of India. Governing Council of IDEMI comprises of various representatives of Govt. of India, State Governments, Public and Private Sectors of the Industry.

IDEMI has come into it's being as a Service-to-the Industry Organization. Regardless of its marginal objectives it has slowly diversified its activities with the demands made by the times and situations. And by and now IDEMI has been serving Industries related to Electrical Measuring Instruments, Electrical Household Appliances, Process Control Instruments & Electronic Instruments. Not restricting to such industries, IDEMI has also been according assistance to large number of small scale organizations. IDEMI is maintaining a constant rapport with the industry and broadly imparting the assistance in following categories:

1. Technical Consultancy in various aspects of Instrumentation
2. Assistance in Design and Development of new Electronic Instruments.
3. Instrument testing and calibrating to the Standards.
4. Tool Design, Tool Making and other workshop facilities
5. Technical Personnel Training at various levels.

These services are provided to the industry on market basis (by contracts) under which the Institute earns more than Rs.1.5 million per year, thus becoming self-sufficient. In 1985 the Institute completes successfully implementation of a US $ 1 million UNDP Project setting up a dynamic Evaluation & Product-cum-Process Development Centre.

2. OBJECTIVES OF THE MEETING

DEVELOPMENT OBJECTIVES

The main objectives of the meeting will be to acquaint some 20 representatives from selected developed countries with the long years of proved experience of the Institute for Electrical Measuring Instruments in its co-operation with the Industries in India. The process of marketing, feasibility studies, design, testing and calibration linkage between the Institute and industries will be presented and discussed during the meeting. The personnel recruitment and training aspects will also be discussed.

IMMEDIATE OBJECTIVES

- To analyse the Indian experience in the Industry-Institute's co-operation with Special Reference to Instrumentation.
- To visit various laboratories and workshop of the Institute as well as some production units of Government and provide industries, to see the linkage between the Institute and industry.
- To compare the experience of the participating countries with the Indian experience in order to reach conclusions for more efficient organization in the participant's country.

- To discuss ways and means of co-operation between the participating countries and the Institute for Design of Electrical Measuring Instruments both in using its highly qualified personnel, laboratories and facilities for training the follows, and the role of UNIDO in this co-operation.

3. PROGRAMME OF THE MEETING

(a) The following papers will be submitted for the discussions

(i) Research Institute-Industry Linkage with Special Reference to Instrumentation.

Contributed by Mr. P.K. Krishnamurthi
Principal Director of IDEMI &
National Project Manager of
UNDP-UNIDO Project.

(ii) Testing & Calibration services to Small Scale Industries- a tool for improving of the Quality of the indigenous products.

Contributed by Joint Director of IDEMI

(iii) Successful implementation of UNDP/UNIDO Project with its Special Reference to the Project No.DP/IND/82/002 - Evaluation & Product-cum-Process Development Centre at IDEMI.

Contributed by: Prof. I. PETROV
UNIDO Chief Technical Adviser
DP/IND/82/002.

(iv) UNIDO Experience in Industry-Research Institute's co-operation.

Contributed by : UNIDO Secretariate

(b) Furthermore, a Round-Table discussion on efficient organisation of the National Human Resources for the Development of the R & D and Industry Activity will be organised.

Directed by Dr. R. RAMANNA Director. BARC.
Assisted by P.K. KRISHNAMURTHI Principal Director of IDEMI

(c) Visits to some selected Government and private Enterprises are scheduled in order to acquaint the participants with the organisation and transfer of IDEMI services to industries, the difficulties encountered by these Enterprises in the productive face, and what has been done to overcome to these difficulties.

4. ADMINISTRATIVE DETAILS

4.1 DATE AND PLACE OF THE MEETING

The meeting will be held in Bombay, India from 20 to 25 January, 1985 at the Institute for Design of Electrical Measuring Instruments.

4.2. PARTICIPATION

It is suggested that the participants be Directors or Managers of Industry Research Services Institute (IRSI) or Industrialists interested in Industry-Research Institute Co-operation and who are dealing with Instrumentation, or Government officials responsible for this linkage.

Participation of the representatives from selected countries to the meeting will be financed by UNIDO and the Government of India (IDEMI).

4.3 WORKING LANGUAGE

The meeting will be conducted in ENGLISH. On a limited basis, facilities will be provided for French and Spanish interpreters.

4.4 REGISTRATION

Each participant should fill in the form for Nomination of Participants (PS-81) attached to the letter distributed by UNIDO to the local UNIDO Resident Representatives. THESE NOMINATION FORMS SHOULD BE RECEIVED BY UNIDO NOT LATER THAN 30TH OF SEPTEMBER 1984.

4.5 PASSPORTS AND VISAS

All participants should be in possession of a valid passport or similar national identity card, with an entry visa which should be obtained from the Diplomatic Representatives of India in the participant's country.

It is advisable to make visa application, where required, immediately after receiving UNIDO's Letter of Award.

4.6 ACCOMMODATION OF PARTICIPANTS: HOTEL RESERVATIONS

The organising committee of the host country will make arrangements for special price hotel reservations for every participant.

4.7 SOCIAL PROGRAMME

Certain cultural activities are scheduled for all participants:

- Sight-seeing of the city of Bombay
- Elephanta Caves tour
- A folklore performance

4.8. INDUSTRY VISITS

During the meeting industrial enterprise visits will be organised.

4.9 ARRIVAL

Participants in the meeting are expected to arrive in Bombay on 19th of January, 1985.

A Note to the participants will be distributed to the participants after they receive UNIDO's Letter of Award and not later than early December 1984.

4.10 FINANCIAL AND ADMINISTRATIVE ARRANGEMENTS FOR PARTICIPANTS

Financial arrangements for the participants financed by UNIDO will be in accordance with the established UN Rules and Regulations.

1. UNIDO will provide:
   - Round trip economy-class air transportation between the airport of departure in the home country and Bombay airport.
   - Daily subsistence allowance for 7 days at the prevailing UN rate equivalent in local currency (Indian Rupee).

2. The Institute(IDEMI) will provide:
   - Local transportation
   - All conference facilities (including conference room, interpretation, reproduction of documents needed during the meeting) and secretarial services.

3. The Participant's Government or his employer will be required to bear the following costs:

- All expenses in the home country incidental to travel abroad, including expenditure for passport, visas, medical examinations, vaccinations and other such miscellaneous items, as well as internal travel to and from the airport of departure in the home country;
- Salary and related allowance for the participants during the period of Meeting.

4. UNIDO and IDFMI will not assume any responsibility for the following expenditures:

- Travel and any other costs incurred due to travel other than by the direct route;
- Travel and any other costs incurred by the dependants who might accompany the participants.
- Costs incurred with respect ot insurance, medical bills and hospitalization fees in connection with attendance at the Meeting.
- Loss or damage to personal property of participants while attending the Meeting;
- Compensation in the event of death, disablement or illness of participants.

4.11 TRAVEL ARRANGEMENTS

Flights will be arranged by Air India wherever possible to follow the most economical direct route. The airplane tickets for the participants will be issued by Air India branch office located in the respective countries. Where there is no Air India airlines service, arrangements for connecting flights will be made to other airlines through Air India only.

Since tickets are issued on restricted currency basis, participants should await formal travel authorisation and should not under any circumstances, purchase their own tickets and such tickets purchased will not be reimbursed by UNIDO. Participants will be contacted by the local airlines through the local office of the UNDP Resident Representative. In countries where no UNDP office exists participants will be contacted at the address listed on the nominations form submitted to UNIDO.

Note: Participants are strongly advised not to have members of their families accompany them as, according to UNIDO's experience, this may cause all kinds of practical difficulties. In any case, the sponsors of the meeting will not be liable for any expenses incurred by these dependents.