<table>
<thead>
<tr>
<th>Service</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning, Monitoring and Evaluation Group (PME)</td>
<td>124</td>
</tr>
<tr>
<td>Industrial Liaison Group (ILG)</td>
<td>124</td>
</tr>
<tr>
<td>Human Resource Development Group (HRDG)</td>
<td>125</td>
</tr>
<tr>
<td>International Science and Technology Affairs Group (ISTAG)</td>
<td>126</td>
</tr>
<tr>
<td>Knowledge Resource Centre (KRC)</td>
<td>126</td>
</tr>
<tr>
<td>Central Workshop</td>
<td>127</td>
</tr>
<tr>
<td>Computation &amp; Network Facility (CNF)</td>
<td>127</td>
</tr>
<tr>
<td>Quality Management System</td>
<td>128</td>
</tr>
</tbody>
</table>
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Ms Anjali Sharma
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Mr Vijay Sharma

Quality Management System
Dr Rakesh Kumar Garg

Planning, Monitoring and Evaluation Group (PME)
Contract R & D Projects, as Sponsored, Collaborative and Grant-in-Aid Projects are undertaken by the Laboratory with funding from External Agencies. Before submission of the project proposals to the outside agencies they are evaluated by the Group based on various criteria and conditions. Monitoring and developing of complete database for report generation on projects are done and project files are created and maintained. Similarly Major Laboratory Projects and other In-house Projects funded by CSIR & NPL, undertaken in NPL, are also monitored. Fund allocation and processing of indents is an important activity undertaken by this group. The report on completed projects and refund of unspent balance to the funding agencies at the end of project are made by the group.

PME prepares Annual Plan and Five Year Plan for NPL. It organizes Research Council meetings and coordinates the Management Council meetings, organized by administration. Time to time PME disseminates information on projects, performance reports and ECF reports to CSIR. PME is also involved in monitoring of Networking Projects and XII five year plan projects. PME developed manpower data and maintains staff positions and disseminates the information to various authorities. The group also maintains and regulates the appointments of project staff under various externally funded projects.

PME has the additional responsibility of getting feedback on degree of customer satisfaction in a prescribed format from funding agencies who are funding the different contract research projects in NPL. The process is done at the end of each project. This function has been initiated by CSIR under the supervision of Customer Satisfaction Evaluation Unit (CSEU) at CSIR Headquarter, Rafi Marg, New Delhi – 110 001. The feedback received from the funding agencies are sent to CSEU, CSIR.

PME prepares many types of reports on Manpower in different formats as required from time-to-time and also does different type of Analysis for manpower planning of the laboratory.

Publication of Annual Report is another important activity of PME. On receiving inputs from various Divisions & other concerned groups, Text and Appendices of Annual Report are compiled, corrected and published in the form of Annual Report each year.

Industrial Liaison Group (ILG)
The Industrial Liaison Group (ILG) is responsible for the commercialization of research and knowledge developed by
the NPL scientists and researchers. Our focus is to foster and develop collaborative work environments between researchers, industry partners and funding agencies. We want to ensure that the relationships created through the commercialization of a technology continue to add value for all partners; leading to ongoing research projects for the inventor and the industry partner and to the commercialization of complementary technologies. In addition, this group also undertakes consultancy, technical services and dissemination of science and knowledge base. This group is responsible for all matters connected with business development. It also helps in organizing “Technology Day” and “World Metrology Day” function where all licensees are invited to interact and deliberate with scientists concerned with development of the technology. It also helps in organizing “Open Day” function, wherein few thousand school and college students with their teachers are invited to see the various scientific and technical activities at NPL. This group further carries out the dissemination of science through publication in CSIR News, CSIR Annual report, business and industrial magazines and their websites and through advertisements in newspapers, conferences, symposiums, various other events and their souvenirs and also through participation in exhibitions. Processing of applications for the awards pertaining to technology or consultancy services is rendered. This group also undertakes distribution of royalty, premia and intellectual fee pertaining to consultancy, technical services and technology know transferred. It further updates industries, licensees and scientists for any CSIR/DST entrepreneurship/funding schemes for applying for awards/projects. It updates scientists about scientific and technical exhibition, events. It acts as bridge in resolving scientific and technical issues raised by industries/clients for providing them solution through technical and consultancy services. This group also takes care of the management of S & T outputs with other funding agencies viz. DST, CSIR, NRDC, CDC, FICCI, etc. This group interacts with FICCI and loads technology inventions at their website for wider exposure, collaborative work, market search and entrepreneurship demand. During the year, the group disseminated Knowledgebase/Technology during India-Africa Exhibition held in Vigyan Bhawan, Taj Palace and at 100th Indian Science held during January 3 -7 2013 at Kolkata. It also extended support to M/s NISCAIR, New Delhi who made documentary film on CSIR-NPL. This group initiated its efforts for possible knowledge alliance with Sensor Technology Pvt. Ltd., Prabhatam Radisafe Limited, New Delhi, Reinst Nano Ventures Pvt. Ltd, Noida, Jyoti Cero Composite, Jamshedpur, GTC Technologies, Houston USA in the area of carbon composite, energy, sensor electronics, solar energy biological instrumentation water purification, EMI shielding, radiation safety etc. A registration certificate for setting-up of NPL Technology Innovation Center (NTIC) under Sec-25 company act was received on 22th May 2012 (2012-13). This group coordinated with CSIR HQs for Scientific Enterprise scheme in the area of ECG-plug-In device. This group resolved the issue of silver recovery from inedible ink waste which was accumulated/generated by M/s Mysore Paints & Varnish Ltd, Mysore over the years and this may be taken up as consultancy project in future.

Human Resource Development Group (HRDG)

The HRD Group represents the central group of the laboratory providing several activities in various areas of core competence of the lab and also related to research scholars / students. The basic objective behind all these activities is to make the Human Resource better informed, knowledgeable and highly skilled & trained so that it can prove to be more competitive, productive and useful to the society. All these eventually lead to the generation of trained S&T manpower in the country.

The group is involved in various activities, such as, Organisation
Knowledge Resource Centre (KRC 2012-13)

NPL Knowledge Resource Center (KRC) has been providing library and information support to scientists for R & D pursuits.

Over the years, it has developed a rich collection of scholarly books and journals for the purpose, especially in the field of physics and related sciences.

During the current year, KRC subscribed to 61 scholarly journals (43 foreign journals and 18 Indian journals) and added 342 books, out of which 104 were S&T books, 238 were Hindi books. KRC serves the NPL community with services like Reprographic service, Electronic Document Delivery service, Inter Library Loan service, Reference service, Literature Search service etc.

NPL-KRC offers online access to more than 6000+ full text journals under the e-consortium project of NKRC (CSIR+DST). The project facilitates access to electronic content from various publishers such as Elsevier, Springer, AIP (American Institute of Physics), APS (American Physical Society), AGU (American Geophysical Union), Wiley - Blackwell, Oxford University Press, Royal Society of Chemistry, American Chemical Society etc as well as the archives of few publishers on concession rates.

KRC is also providing access to intranet edition of Indian Standards.

The shift in technology achieved with the installation of improved routers helped in attracting the R & D personnel in large number to make use of NPL-KRC and leads to optimize the use of the subscribed/entitled e-resource as well as internet resources.

On continuous basis, KRC maintains its site on the NPL intranet to provide latest information on its activities such as additions to its collection, current subscribed journals, new journals received during the week, links to electronic libraries, publishing houses, and papers published by NPL researchers.

NPL-KRC also maintains NPL website (http://www.nplindia.org) on Internet to inform others about the activities of NPL such as its role towards the society, thrust area of research, facilities, services and achievements.

Further, to improve the quality, speed and effectiveness of services, KRC has completed the retro-conversion of books. With this, end users of KRC would avail the value added services associated with the NPL-KRC Information System (NKIS).

In the direction of providing free worldwide access to the intellectual outputs of NPL in form of journals articles, research papers, conference papers, technical reports, preprints, and other scholarly communication and also to support the concept of open access initiative, NPL-KRC...
has established the Institutional Repository (IR@NPL) http://npl.csircentral.net/ and till date, around 940 records has been added.

**Central Workshop**

Central Workshop has successfully completed 731 jobs related to R & D and maintenance work costing approximately ₹ 60 Lakhs (Rupees Sixty Lakhs only). The jobs included designing, drawing, fabrication and development of various components required by the several scientists for their activities. Most of them are highly sophisticated components related to various R & D works.

In the Glass Technology Unit, we completed 75 jobs of different sections in NPL. It included the sealing of quartz ampoules, making of reactors B-45, Bubbler B24, distillation plant, condenser, covering of filaments in quartz tubes and electro chemical cells.

Due to good preventive maintenance, most of the machines in workshop are in good working condition.

**Computation & Network Facility (CNF)**

The Computation & Network Facility (CNF) caters to the specialized computing and communication needs of the laboratory. It configures, administers and maintains various servers, a campus LAN and internet connectivity as required. Most of the solutions are integrated in house and deployed on Linux based servers.

Major facilities include email, web hosting on intranet and internet, webcast, database, security solutions and high performance computing. A completely new and efficient email solution has been integrated and deployed in this year using a host of open source packages.

A major laboratory wide effort has been started to implement the CSIR-ERP solution at CSIR-NPL. A 20TB SAN and database and application servers have been installed in the Data Centre to connect to the CSIR-ERP network as soon as it is deployed by the CSIR. The exercise to familiarize all across the laboratory and populate the ERP database has been started.

In the area of research and education, CNF staff teaches Advanced Computational Physics to M.Tech. students under the AcSIR programme. Under a DST sponsored project “Innovative Product Development Centre”, low cost medical instrumentation is being developed. The ECG device developed earlier won the DST – Lockheed Martin Gold Medal for the year 2012. Other devices are in various stages of development.

**Quality Management System**

This group maintains Quality System in NPL, based on the international standard IS/ISO/IEC 17025:2005, in the area of Test and Calibration. All the test/calibration areas of NPL are periodically audited to confirm the continued compliance to the international standard.

The Quality Manual was revised from time to time, depending upon reorganization of the different activities.

A delegation from NPL participated in APMP General Assembly and related meetings held in New Zealand. Laboratory Report of NPL was prepared and submitted to APMP in its General Body meeting. The QMS annual report was also submitted in APMP QS TC meeting.

This group is also organizing a special training course on “Quality Management System – Laboratory Management, Need for Calibration / Accreditation as per IS/ISO/IEC-17025”. Special training course was also conducted for the staff of Department of Legal Metrology on their demand.
Dr S S Bhatnagar, Pandit Jawaharlal Nehru, Sanjay Gandhi, Rajeev Gandhi, and Smt. Vijay Laxmi Pandit at NPL

Pandit Jawaharlal Nehru Addressing the Gathering at the Inauguration of NPL