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Government of India
Ministry of Heavy Industries & Public Enterprises
Department of Public Enterprises

Public Enterprises Bhawan
Block No. 14, CGO Complex
Lodhi Road, New Delhi
Dated: 23rd September, 2011

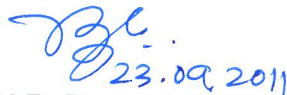
OFFICE MEMORANDUM

Sub: Guidelines on (i) Research & Development and (ii) Sustainable Development for Central Public Sector Enterprises (CPSEs)

The undersigned is directed to enclose Guidelines on (i) Research & Development and (ii) Sustainable Development for Central Public Sector Enterprises. These Guidelines issue with the approval of Minister, Heavy Industries & Public Enterprises.

2. These Guidelines are available on DPE website
<http://dpemou.nic.in/MOUFiles/R&D.pdf> and
http://dpemou.nic.in/MOUFiles/Sustainable_Dev.pdf.
3. CPSEs are requested to implement these Guidelines with immediate effect. However, for the purpose of Performance Evaluation under the MoU system, these Guidelines will take effect from the year 2012-13.
4. All the administrative Ministries/Departments are requested to take note of the above Guidelines and bring these Guidelines to the notice of CPSEs under their control for necessary action.

Encl: as above


23.09.2011
(J.R. Panigrahi)
Director (MoU)
Tel.24360841

To:

1. Secretaries of all administrative Ministries/Departments
2. Chief Executives of all CPSEs

GUIDELINES

ON

RESEARCH & DEVELOPMENT (R&D)

FOR

CENTRAL PUBLIC SECTOR ENTERPRISES

Department of Public Enterprises
Ministry of Heavy Industries & Public Enterprises

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1. RATIONALE

- 1.1 The ongoing integration of world economies has opened up an array of business opportunities and challenges to corporate firms to access new markets on the one hand and increased competition on the other. This intense competition is pushing business leaders to increasingly recognize the need to shift focus to new business opportunities. The situation has also compelled organisations in the developed world to make their operations R&D driven as they increasingly confront the risks of competing with low cost producers in emerging markets.
- 1.2 Despite substantial achievements and high levels of performance in a large number of sectors, our country has not optimally utilized its vast research potential. It urgently needs to strengthen its enormous capacity to generate knowledge and to translate that knowledge into economic and social value.
- 1.3 At the time of independence, our nation did not have a strong, organized scientific or technological infrastructure and it had to depend heavily upon imported technologies for development. India's Science and Technology Policy, 2003 aimed at optimal utilization of existing physical and knowledge resources, development of innovative technologies, creation and management of intellectual property, systems and methodologies for mitigation and management of natural hazards, etc. Over the years, our country has developed a large base of scientific manpower with the expertise to facilitate and promote modern advancements in basic and applied sciences. The time is therefore, ripe to focus on R&D for accelerating development and growth in the country.
- 1.4 R&D plays an important role in the business processes that result in technology bringing new products and services to the market place. R&D results in high quality jobs, successful enterprises, better goods, services and more efficient and cost effective processes.

- 1.5 As per the Research and Development Statistics 2007-08 published by the Ministry of Science and Technology, India's R&D expenditure as a percentage of GNP in 2005-06 was 0.89% as compared to 0.81% in 2002-03. The share of various sectors in the National R&D expenditure for the year 2005-06 was: Central Govt. 57.5%, Public sector industry 4.5%, Private sector 25.9%, State Govt. 7.7% and Higher Education 4.4%.
- 1.6 The rationale behind R&D activities for CPSE's is the changed business environment is highly competitive markets, the rapid pace of change in technology, stringent emission norms, quality control criteria, heightened expectations and demands of customers, lack of transfer of technology and know-how from competitors, etc. R&D activities by CPSEs can result in substantial increases in market share and competitiveness. They would help to increase profitability and reduce costs. R&D is also a vital input for strengthening the defence preparedness of our nation.
- 1.7 R&D initiatives can further help strengthen our country's technological capabilities, ensure growth and help in the creation of jobs. They would also allow CPSEs to address the new challenges and opportunities in increasingly competitive global markets. R&D programs will create opportunities for the young and educated youth and will help in retaining talent within the country. Focused R&D programs, combined with new international partnerships, can help to address global issues such as climate change, health, energy security, food security and poverty alleviation.
- 1.8 In MoUs to be signed between CPSEs and administrative Ministries/Departments from the year 2011-12 onwards, 5% weightage out of 50% for non-financial parameters has been earmarked for R&D activities.

1.9 Some R&D activities carried out by CPSEs so far, are in the area of :

- Technology development
- Product development / improvement
- Process development / improvement
- Efficiency improvement
- Performance improvement
- Quality improvement
- Value engineering
- Cost reduction
- Import substitution for strategic reasons
- Ecological Balance, conserving environment & resource optimization
- Developing alternate sources of energy
- Providing solutions to generic problems (non-routine)

2. SCOPE & MEANING

2.1 According to the Companies Act 1956, the accounts of the companies are required to be prepared in accordance with the Accounting Standard issued by the Institute of Chartered Accountants of India from time to time. The accountings of Research and Development expenses have been dealt with under the Indian Accounting Standard 26. According to this, '*Research*' is *original and planned investigation undertaken with the prospect of gaining new scientific or technical knowledge and understanding.*'

Examples of research activities are (Reference to Institute of Chartered Accountants, Accounting Standard - 26; page 42):

- a) *activities aimed at obtaining new knowledge;*
- b) *the search for, evaluation and final selection of, applications of research findings or other knowledge;*
- c) *the search for alternatives for materials, devices, products, processes, systems or services; and*
- d) *the formulation, design, evaluation and final selection of possible alternatives for new or improved materials, devices, products, processes, systems or services*

2.2 Further, according to Accounting Standard 26, '*Development*' is *the application of research findings or other knowledge to a plan or design for the production of new or substantially improved materials, devices, products, processes, systems or services prior to the commencement of commercial production or use.*

Examples of development activities are (Ref ICAI, AS 26 Page 46):

- a. *the design, construction and testing of pre-production or pre-use prototypes and models;*

- b. *the design of tools, jigs, moulds and dies involving new technology;*
- c. *the design, construction and operation of a pilot plant that is not of a scale economically feasible for commercial production;*
- d. *the design, construction and testing of a chosen alternative for new or improved materials, devices, products, processes, systems or services; and*
- e. *the design, construction and operation of a demonstration plant of reasonable capacity for proving the technology at commercial scale.*

2.3 Moreover, the Govt. of India has enunciated various fiscal incentives to promote R&D activities. Deductions for R&D expenses are allowed under the Income Tax Act.

2.4 According to the proposed Direct Tax Code Bill 2009, '*Scientific Research and Development*' shall mean *systematic investigation and search in the field of technology natural or applied science (including agriculture) if :*

- a) *It is carried out by a Company by means of experiment or analysis;*
- b) *It is in the nature of:*
 - (i) *Basic research, namely work undertaken for the advancement of scientific knowledge without a specific practical application in view,*
 - (ii) *Applied research, namely work undertaken for advancement of scientific knowledge with a specific practical application in view,*
 - (iii) *Experimental development, namely, work undertaken for the purpose of achieving technological advancement for the purpose of creating new or improving existing materials, devices, products or processes including incremental improvement thereof and*

- c) It is **NOT** in the nature of
- (i) Market research or sales promotion, or
 - (ii) Quality control or routine testing of materials, devices, product or process or processes, or
 - (iii) Research in the social science or the humanities, or
 - (iv) Prospecting, exploring or drilling for, or producing, minerals, petroleum, or natural gas, or
 - (v) The commercial production of a new or improved material, device or product or commercial use of new or improved process
 - (vi) Style change, or
 - (vii) Routine data collection

2.5 Notwithstanding the definitions mentioned in the above paras, for the purposes of MoU, the following activities in addition to activities mentioned in para 1.9 shall also fall within the ambit of R&D activities and may include any one or more of the following that may be relevant to the current & future business needs of the organisation. (Indicative list is given at Annexure-I)

- a) R&D activities must be original and planned and should result in new knowledge;
- b) The application of R&D should result in new / improved products or processes or services that should be new to the company, or new to the region or new to the world;
- c) The search for knowledge may be related to product, material, device, process, system or services. It may be related to design, or new or alternative or improved use of materials, products, processes, systems or services;

It also includes application of research findings for new or substantially improved materials, products, processes or systems or services prior to commencement of commercial production or use which may include

- d) setting up of demonstration / pilot plants for the first time by the organization;
- e) Sectors, like Financial, Tourism, Trading etc., can take-up the design and testing of new or improved systems or services to develop new processes resulting in enhanced value addition / performance of the organization.



3. POLICY, PLANNING AND BUDGETING

- 3.1. The Planning for R&D should commence with the Corporate R&D Policy of the company which every CPSE must have. This Corporate R&D Policy should align itself with the Company's Vision and Mission.
- 3.2. Based on the R&D Policy, the CPSE must develop an R&D manual and Specific R&D plan. Specific R&D plans should be long, medium and short term as per need and have clearly earmarked objectives, scope, expenditure, benefits expected, deliverables, time periods etc. It may also include details of expected tax benefits. To achieve the objectives and goals, it is necessary to prioritize R&D projects depending on the benefits that are likely to accrue.
- 3.3. CPSEs shall get Specific R&D plan and R&D budget approved by the Board of Directors and the details of such approval are required to be submitted to the Task Force at appropriate time. Any CPSE which has not got its Specific R&D plan and R&D budget passed by its Board will automatically be rated as "Poor" in R&D component of MoU.
- 3.4. Specific R&D plans should also contain details about implementation as well as procedures and methodologies for monitoring results and modalities of concurrent and final evaluation. It should also specify mandatory documentation of the R&D efforts as well as results achieved. It should also, where applicable, include provisions for obtaining / maintaining recognition of its R&D centre by the Department of Scientific & Industrial Research, so that applicable tax / duty benefits can be claimed by CPSEs.
- 3.5. Specific R&D plans should contain projects to be undertaken. The targets to be achieved against each project needs to be clearly defined. The plan should specify :

- Projects to be undertaken;
 - Activities to be undertaken for each project;
 - Budget allocated as a percentage of PAT;
 - Responsibilities and authorities;
 - Major measurable and perceivable results expected;
 - Knowledge management systems and HR issues of manpower, incentives and rewards;
 - Proposed net working with academic/research institutions, customers and vendors.
- 3.6. Projects labelled as R&D should not overlap with projects under Corporate Social Responsibility or Sustainable Development.
- 3.7. CPSEs should formulate a procedure for identifying in-house / collaborative R&D projects.
- 3.8. **Funding of R&D:**

- i) The CPSE must specify and justify its R&D budget as a percentage of Profit (PAT) keeping in mind its long term business needs and current expenditure on R&D. The expenditure on R&D as a percentage of PAT will have 50% weight in the total marks of 5 in the MoU. The prescribed minimum amount for expenditure under R&D will be as under :

Sl. No.	Category of CPSE	Minimum Expenditure on R&D as a percentage of PAT
1	Maharatna & Navratna	1% of Profit after Tax
2	Miniratna –I & II and below	0.5% of Profit after Tax

- ii) CPSE should make an attempt to benchmark R&D spending with internationally prevalent best practices in that sector.

- iii) R&D budgeting for the next 3 years must be clearly indicated. However, the projected annual expenditure for the year under consideration will be taken as the target for the year.
 - iv) The funding of R&D budget will not lapse. It will be transferred to a R&D fund which will accumulate –as in the case of non lapsable pool for the North East.
 - v) In respect of CPSEs categorised under Section 25 and Financial Services syndicates, etc., DPE / Task Force will have the flexibility to evolve parameters, weights, etc. for R&D.
- 3.9. CPSEs should empower R&D team with adequate delegation of powers for smooth implementation of projects. The R&D Project leader may be empowered to procure materials / components / equipment / software tools from foreign sources as per established procedures or as decided by the Board of CPSE. Similarly, if the R&D team finds it essential to consult an expert individual / agency / institute after ensuring availability of the resource for desired results, the team may be empowered to hire such services / competencies as per established procedures. or as decided by the Board of CPSE. The R&D team should be empowered to travel and interact with peers on need basis. Visits to foreign universities, technical conferences for interaction / collaborative association may be simplified / streamlined / facilitated.
- 3.10. CPSEs have been classified into Maharatna, Navratna , Miniratna I& II and other category. Maharatna and Navratna CPSEs shall select Five R&D projects ; Miniratna I&II and other CPSEs shall select Three R&D Projects to be taken as Target in the MoU.

