Republic of the Philippines



DEPARTMENT OF SCIENCE AND TECHNOLOGY

Administrative Order No. 002 Series of 2018 FEB 0 7 2018

Subject: GUIDELINES FOR THE ACCELERATED R&D PROGRAM FOR CAPACITY BUILDING OF RESEARCH AND DEVELOPMENT INSTITUTIONS AND INDUSTRIAL COMPETITIVENESS OF THE SCIENCE FOR CHANGE (S4C) PROGRAM

#### **1. RATIONALE**

The Department of Science and Technology (DOST) sets the direction of Research and Development (R&D) in the country, guided by the socio-economic agenda of the Administration, the Philippine Development Plan (PDP) 2017-2022, and the DOST Strategic Plan 2017-2022: Science for the People (SFTP). In the next five years, the Harmonized National R&D Agenda (HNRDA) 2017-2022 will determine the R&D Programs that will be funded by the government. The Science for Change (S4C) Program articulates the R&D and Human Resource Development (HRD) program expansion and new programs of DOST, as well as the investment in R&D capacity-building and improvement of industry competitiveness in the Regions. The latter is composed of four (4) Programs under the Accelerated R&D Program for Capacity Building of Research and Development Institutions and Industrial Competitiveness, namely: (1) Niche Centers in the Regions for R&D (NICER) Program, (2) R&D Leadership (RDLead) Program, (3) Collaborative R&D to Leverage Philippine Economy (CRADLE) Program, and (4) Business Innovation through S&T (BIST) for Industry Program.

The Administration recognizes the role of Science, Technology and Innovation (STI) in achieving AmBisyon 2040. From 2009 to 2013, the R&D expenditures as a percentage of the GDP increased from 0.11% to 0.14%. However, this is far from the global average of 2.04% and UNESCO recommendation of 1% for developing countries. The bulk of R&D spending in the Philippines comes from the public sector with 60 percent of total expenditures. Most of the R&D activities in the country are concentrated in the National Capital Region (NCR), Region IV-A (CALABARZON) and Region III (Central Luzon).

In the Philippine Development Plan 2017-2022, the annual targets for R&D expenditure as a percentage of GDP is set at 0.2% in 2017, increasing to 0.5% by 2022. The number of Researchers, Scientists and Engineers (RSEs) is set to increase from 270 per million Filipinos to 300 in 2022. According to the PDP, "STI will contribute to the achievement of the overall PDP goal of establishing the foundation for inclusive growth, high-trust society and a globally competitive knowledge economy through increasing the country's potential growth. This will be done by promoting and accelerating technology adoption and stimulating innovation. Increasing STI in agriculture, industry and services sectors as well as investments in technology-based start-ups, enterprises and spin-offs will result in the promotion and acceleration of technology adoption. On the other hand, enhancing the creative capacity for knowledge and technology generation, acquisition and adoption; and strengthening open collaboration among actors in the STI ecosystem will stimulate innovation."

"Innovation activities in the sectors under the Department of Trade and Industry particularly the development of industry roadmaps will be supported. These roadmaps shall consider the utilization of results of researches and their R&D requirements which will be made part of the HNRDA."

F. T. il fini

1

Head Office: Gen. Santos Ave., Bicutan, Taguig City Website: www.dost.gov.ph

Postal Addr Tel. No. 837



#### 2. SCOPE/COVERAGE

The guidelines of the "Accelerated R&D Program for Capacity Building of Research and Development Institutions and Industrial Competitiveness of the S4C Program" cover grant application, monitoring and reporting of programs and projects that are funded under the Grants-in-Aid (GIA) Program of the Department of Science and Technology (DOST) and should follow the Guidelines for the Grants-in-Aid Program of the DOST and its Agencies or the Administrative Order No. 009 Series of 2017.

### 3. PROGRAMS UNDER THE ACCELERATED R&D PROGRAM FOR CAPACITY BUILDING OF RESEARCH AND DEVELOPMENT INSTITUTIONS AND INDUSTRIAL COMPETITIVENESS

### 3.1 NICHE CENTERS IN THE REGIONS FOR R&D (NICER) PROGRAM

As innovation plays an important role in economic development, DOST aims to accelerate industrial competitiveness by capacitating Higher Education Institutions (HEIs) in the Regions to undertake quality research that will promote regional development.

- 3.1.1 The Niche Centers in the Regions for R&D (NICER) will provide institutional grant to HEIs in the Regions for R&D capacity building to improve their S&T infrastructure (i.e. Equipment, R&D programs and projects, and human resource).
- 3.1.2 NICER will be established in consultation with the academe and industry; and endorsement by the Regional Development Council (RDC) upon the recommendation of the Regional Research, Development and Innovation Committee under RDC.

#### 3.2 R&D LEADERSHIP (RDLead) PROGRAM

Under the Philippine Development Plan (PDP) 2017-2022 on Vigorously Advancing Science Technology and Innovation, the Department of Science and Technology (DOST) will accelerate capacitating and strengthening institutions and human resources in the Regions. As cited in the PDP, the low rank of the Philippines in the Global Innovation Index Report 2016 at 74<sup>th</sup> among 128 economies is partly due to weakness in human capital and research and development. The government through the PDP has set out strategies, targets and legislative agenda to leverage science, technology and innovation. An Act Establishing the Science for Change (S4C) Program is one of the legislative agenda being pursued. The RDLead program is intended for HEIs in the Regions, under the NICER Program.

- 3.2.1 The program provides upgrading of existing R&D facilities in HEIs and Research and Development Institutions (RDIs).
- 3.2.2 The HEIs or RDIs through the RDLead Program, will engage experts with strong leadership, management and innovative policy-making proficiencies to be in charge of strengthening the research capabilities of the HEIs or RDIs.
- 3.2.3 The RDLead and NICER Programs will capacitate HEIs to help improve and hasten the use of research results that will contribute to the socio-economic development of the country and help address pressing challenges in the areas of agriculture, industry, emerging technologies, health, climate change and disaster risk reduction.

J. T. Whene 2

3.2.4 The RDLead Program will be implemented by the National Research Council of the Philippines (NRCP). The HEIs or RDIs apply for RDLead as a project for funding under the DOST-GIA, similar to the Balik Scientist Program (BSP).

٠,

3.2.5 Furthermore, RDLeaders should initially be limited to recipients of the BSP and local experts. Foreign experts shall only be considered under foreign grants, if any.

#### 3.3 COLLABORATIVE RESEARCH AND DEVELOPMENT TO LEVERAGE PHILIPPINE ÉCONOMY (CRADLE) PROGRAM

In the WEF Global Competitiveness Index 2016, the Philippines ranked  $33^{nd}$  and  $69^{th}$ , in terms of innovation capacity and quality of research scientific institutions, respectively, out of 140 countries. Other ASEAN countries such as Malaysia ranked  $7^{th}$  and  $20^{th}$ , Indonesia  $30^{th}$  and  $41^{st}$ , and Thailand  $54^{th}$  and  $53^{rd}$ . In terms of overall Global Competitiveness, the Philippines ranked  $52^{nd}$  compared to Malaysia at  $20^{th}$ , Indonesia at  $34^{th}$ , and Thailand at  $31^{st}$ .

With increasing economic and global competition and putting the ASEAN integration in perspective, it is imperative for the Philippines to implement initiatives that will improve the innovation system to leverage economic progress. Collaboration between private companies and the academe is an emerging strategy for knowledge exchange and production and utilization of new technologies that is yet to be maximized. According to the Philippine Innovation Ecosystem Assessment 2014 conducted by USAID, the innovation network between the academe and industry in the Philippines is characterized by "widespread mutual distrust and disregard." Industries are perceived as potentially exploitative, whereas the university is not trusted to deliver relevant and timely research outputs.

- 3.3.1 Through the Collaborative Research and Development to Leverage Philippine Economy (CRADLE) Program, the DOST will help create a synergistic relationship between the academe and the industry with the goal of invigorating Philippine R&D.
- 3.3.2 Under the CRADLE Program, the private sector industry will identify the problem; and the HEIs or RDIs will undertake the research and development. CRADLE funding will only be given to the HEI or RDI. Together, the academe as producer of knowledge and human resource, and the industry as the entity that translates technologies to real world applications, will generate new opportunities for Filipinos in the form of new industries, enterprises, jobs and solutions to pressing community and national problems. Furthermore, collaboration will ensure timeliness and relevance of R&D endeavors, with reference to practical and pressing national needs.

#### 3.4 BUSINESS INNOVATION THROUGH S&T (BIST) FOR INDUSTRY PROGRAM

Global trends suggest that economic growth is related to the number of technology/innovation generated and as such the expenditures on Research and Development (R&D) is a necessary ingredient for the productivity growth of many countries. It has been reported that the Philippines improved its ranking on innovation index from 2010-2015. However, despite the country's global improvement the government is still underinvesting in R&D activities. Based on the 2013 World Bank data on R&D expenditure, the Philippines is spending only 0.14 percent of its GDP which is low compared to ASEAN countries such as Thailand, Malaysia, and Singapore.

Accordingly, the private sector has an indispensable role in national growth and development. The government needs to demonstrate risk taking in R&D and new technologies, in partnership

3 J.T. Defen

with the private sector, thus sharing the risk in undertaking R&D and investing in new technologies, lessening the commercial risk that will be taken by the industry.

It is in this context that the Department of Science and Technology is embarking on strengthening the science, technology, and innovation (STI) activities of industry sectors to enhance the competitiveness level of Filipino companies through the acquisition of strategic and relevant technologies.

- 3.4.1 The Business Innovation through S&T (BIST) for Industry Program of DOST aims to, facilitate the acquisition of strategic and relevant technologies by Filipino companies for immediate incorporation in their R&D activities.
- 3.4.2 This program will contribute to the technology development value chain as it provides the means for the industry to undertake R&D and acquire advanced technology for global competitiveness.
- 3.4.3 The BIST will provide financial assistance to private companies to undertake R&D and enhance their technological capacity. The financial assistance can be used for acquisition of high-tech equipment and machinery, technology licensing, and acquisition of patent rights. The total financial assistance provided shall be returned to DOST after the acquisition of equipment/technology has been completed.

#### 4. GRANT OBJECTIVES

- 4.1 The establishment of NICER Program aims to capacitate HEIs in the regions in order to make significant improvement in regional research by integrating its development needs with existing research capabilities and resources. Specifically, the Program aims:
  - 4.1.1 To establish R&D Centers that will cater to the specific needs of the Regions, to include upgrading, development and acquisition of research equipment to undertake collaborative R&D activities
  - 4.1.2 To capacitate S&T human resource through the RDLead Program in pursuit of innovative research relevant to the societal needs of the region that will support local industries
  - 4.1.3 To promote inclusive growth that will benefit the research community and the industry by increasing the number of developed and transferred technologies
  - 4.1.4 To improve the level of Intellectual Property (IP) management and protection as well as deploy technologies for public good, and generate revenues through licensing and commercialization
- 4.2 The RDLead Program aims to strengthen the research capabilities of the HEIs/RDIs in the Regions. Specifically, the RDLead Program will secure the services of Filipino experts in the Philippines and abroad who will:
  - 4.2.1 Lead in establishing new R&D Centers and upgrading of existing R&D Centers under the NICER Program
  - 4.2.2 Train and capacitate local researchers, faculty, students, laboratory heads/staff

J. F. Al Ami

.4

- 4.2.3 Provide policy recommendations for the continuous development, maintenance and sustainability of R&D Centers in the country and keeping up with the latest technologies and world-class standards
- 4.2.4 Develop and/or update: a) Environment, Health and Safety Manual and Protocols b) Risk Management, Services; c) Sustainability and Maintenance Programs; d) Protocols and Training Modules and e) existing facility guidelines, e.g. Good Laboratory Practices (GLP) Guidelines – Standard Operating Procedures (GLP Manual and Training Module)
- 4.3 Under the CRADLE Program, the private sector industry will identify the problem; and the Higher Education Institutions (HEIs) or Research Development Institutions (RDIs) will undertake the research and development. To improve the R&D innovation system, the program aims to:
  - 4.3.1 Bridge the academe and the industry; and to stimulate collaboration that meets the needs of both academe and industry in one shot
  - 4.3.2 Target each level of the technology transfer process---from pursuit of industry-driven basic research, academe-industry joint research, and product development stage to technology promotion/transfer
  - 4.3.3. Support both the pursuit of basic R&D and the transition of R&D results to the industry.
  - 4.3.4. Engage both the academe and the industry into a cooperation that is mutually beneficial, whereby the academe, through its R&D capability and human resource, supplies the R&D needs of the industry and in the process helping the industry gain innovative market advantages. Thus, the funding is maximum of Five Million Pesos (P5M), for one to three (1-3) years.
- 4.4 The establishment of the BIST for Industry Program aims to level-up the innovation capacity of the Philippine Industrial Sector through R&D, and acquisition of strategic and relevant technologies to enhance their technology level and production processes. Specifically, the Program aims:
  - 4.4.1 To promote industry-based R&D, and technology upgrading through the introduction and utilization of modern and efficient technology in the manufacturing and physical development of existing and new products or processes; and
  - 4.4.2 To enhance the competitiveness of industries to enable them to compete globally.

### 5. SELECTION CRITERIA

e.e

- 5.1 ELIGIBILITY OF PROPONENTS
  - 5.1.1 NICER Program
    - 5.1.1.1 Any HEI with proven competence and track record may apply for funding under the NICER Program, provided that the projects will have beneficial impact on local industry. If the HEI proponent does not have the full capacity to pursue the proposed R&D, the HEI must have a corresponding proposal under the RDLead Program to fill in the capacity gap.

J. F. D. Pure 5

- 5.1.1.2 The eligibility of the HEIs shall be determined by the DOST Councils based on the record of accomplishment of the institution, alignment with the HNRDA, sustainability, adequacy of human resource and clearance from any accountability with DOST.
- 5.1.2 RDLead Program
  - 5.1.2.1 The Expert must have:
    - a. A doctorate degree in the relevant field from a reputable academic institution.
    - b. At least 10 years professional experience in the relevant field with a reputable R&D institution and/or academe after obtaining the graduate degree
    - c. Outstanding contribution in the chosen field of specialization
    - d. Competent training and leadership skills
    - e. Refereed publication
    - f. Good health
    - g. Clearance from any accountability with DOST and previous employer/s
    - h. An expert without a graduate degree may also qualify in special cases, provided that the highly-specialized skill or field of expertise is aligned with the Harmonized National R&D Agenda and the priorities of the DOST.

### 5.1.3 CRADLE Program

5.1.3.1 For complete details on the eligibility of the proponents, application requirements, general criteria for evaluation, proposal formats, technical and financial monitoring, report submission and other provisions related to this funding, please refer to the Revised Guidelines of the DOST-Grants-In Aid Program (DOST-GIA) at website <u>www.dost.gov.ph</u>

### 5.1.4 BIST

5.1.4.1 The grants under BIST Program will be available to private industry companies or their consortium/organizations, incorporated in the Philippines. A private industry or company shall refer to any juridical entity such as but not limited to people's organization, consortiums (there will be one main corporation participant), industry/trade/business associations, and other similar private entity.

- 5.1.4.2 Proponent must be a Filipino-owned corporation.
- 5.1.4.3
  - 4.3 The prospective companies should have proven technical, financial and marketing background and must be operational for at least three (3) years.

J. T. Kl. Heni 6

- 5.1.4.4 The amount of financial assistance for the company's R&D shall be determined by the revenue and assets of the company based on the financial/tax report submitted.
- 5.1.4.5 Preference shall be given to proposals from Small and Medium companies following RA No. 9501 known as "Magna Carta for Micro, Small and Medium Enterprises (MSMEs)" as amended by RA No. 6977 categorized based on assets as: Small: more than Php 3,000,000 Php 15,000,000 Medium: more than Php 15,000,000 Php P100,000,000. Applications from large enterprise or those with assets of more than Php100,000,000 may be considered.

#### 5.1.4.6 Eligible expenses

The acquisition of technology could be in the form of acquiring knowhow/rights/ blueprints of a registered Intellectual Property via one of the following methods:

- a. Licensing of technology
- b. Outright purchase of technology
- c. Acquisition of hardware/software for R& D

R&D does not include market research.

#### 5.2 GENERAL CRITERIA

...

#### 5.2.1 NICER Program

- 5.2.1.1 The proposal for the establishment of R&D Center shall be endorsed by the Regional Development Council (RDC).
- 5.2.1.2 The proposed R&D Center shall be a collaborative project of HEIs in the region.
- 5.2.1.3 The proposed R&D Center shall be unique and different across regions, with projects anchored on the Harmonized National R&D Agenda (HNRDA) and regional primary needs and capabilities.
- 5.2.1.4 The proposed R&D Center shall be a multi-year project (maximum of three (3) years) with a clear roadmap of R&D activities and outputs. The proposed center should have at least three (3) R&D project proposals. The appropriate Council shall regularly monitor the R&D center. Failure to deliver the expected outputs after Year I will be grounds for project termination.
- 5.2.1.5 The identification of a NICER shall consider R&D projects that would merit generation of knowledge or development of technology for a particular niche commodity.
- 5.2.1.6 The R&D activities shall define the (1) resources needed, (2) enhancement of facilities, e.g. laboratory upgrading (renovation or extension), and (3) procurement of equipment vital for the proposed projects.

J. T. El Pure

7.

- 5.2.1.7 The R&D Center for niche product or commodity in the region shall be hosted by an HEI.
- 5.2.1.8 The host HEI shall have a written commitment to be included in the MOA in maintaining the proposed Center for its sustainability. The commitment shall be in the form of existing faculty, human resource training and funding.

### 5.2.2 RDLead Program

- 5.2.2.1 These guidelines shall cover the selection of experts who will apply or will be engaged by the HEI with an approved NICER program, or HEI with a NICER proposal for funding consideration, or by an existing RDI under the RDLead Program. The process for the procurement of consulting/professional services will follow the provisions of R.A. 9184 or the "Government Procurement Reform Act" and its Implementing Rules and Regulations (IRR).
- 5.2.2.2 The HEI may avail the service of one or two RDLeaders for each R&D Center to be established or upgraded under the NICER Program. Similarly, RDLead applicants may also be engaged to an existing RDI (RA 10055 or "The Philippine Technology Transfer Act of 2009", Section 4 (i)).
- 5.2.2.3 In the case of private RDIs, at least sixty *per centum* (60%) of the capital shall be owned by the citizens of the Philippines or corporations or associations. This does not include RDIs covered by international bilateral or multilateral agreements.
- 5.2.2.4 The approved RDLeader may be engaged either full-time for a maximum of one (1) year, or part-time engagement (30% or 70%, as the case may be) with a clear plan of action, activities and outputs. The NRCP shall regularly monitor the RDLeader. Failure to deliver the expected outputs after 6 months will be ground for termination of engagement.
- 5.2.2.5 Outputs

1

The expected outputs of the RDLeaders may be any of the following, as agreed with the HEI/RDI:

- a. Publications (in recognized scientific journals or peer-reviewed publication)
- b. Patents (tangible measure of innovation, or intellectual property)
- c. Products/ Process (new or innovative, with commercial value)
- d. People Services (increase in the scientific and technological workforce)
- e. Places (facilities that enable increased 6Ps output)
- f. Policies (science-based decision making)
- g. Presentations and Training Modules shared with host HEI or RDI
- h. Program/Project Proposals approved

J. J. Klethere

- i. R&D Roadmaps
- j. R&D Human Resource Development Program
- k. Protocols, Manuals developed/updated

### 5.2.2.6 Outcomes

The following are the expected outcomes of the RDLeaders:

- a. Flourishing R&D activities in the Regions evidenced by the increased number of R&D initiatives aligned with the HNRDA
- b. Strengthening the R&D and S&T services in the Regions through enriched human resource capabilities
- c. Implementation of policies in sustaining and continuous upgrading of the R&D Centers
- d. Continuous utilization and marketability of results generated from the research, thereby contributing to the socio-economic growth of the country
- 5.2.2.7 Reporting Requirement

RDLeaders are required to submit regular progress reports and a detailed final report to NRCP, as indicated in the Terms of Reference (TOR) and endorsed by the HEI or RDI. The progress reports should summarize the technical progress, and planned activities of the RDLeader for the succeeding period. The final report must be completed within 30 calendar days after the completion of each year or term of engagement of RDLeadership.

### 5.2.3 CRADLE

- 5.2.3.1 All proposals submitted should be in line with the priority R&D areas and industries identified by the DOST and Department of Trade and Industry (DTI), namely:
  - a. Agri-processing (includes drug and herbal development)
  - b. Agriculture, Fishery and Forestry
  - c. IC Design
  - d. Semi-conductor and Electronics
  - e. Creative Industries/Knowledge-based Services
  - f. Renewable Energy
  - g. Industrial Waste Treatment
  - h. Information and Communication Technology (includes Artificial Intelligence)

J. F. El Ami

- i. Food and Nutrition
- j. Infrastructure and Logistics
- k. Environment and Climate Change
- 1. Manufacturing
- 5.2.3.2 The HEI should have at least one partner company to collaborate with.
- 5.2.3.3 The partner company will provide counterpart of at least twenty percent (20%) of the total project cost. Counterpart may be in cash, kind or person-hour support in the academe.
- 5.2.3.4 The HEI and the company must not have unsettled accountabilities with the DOST System.
- 5.2.3.5 The criteria for evaluation will be based on the workability/technical viability of the proposed projects, social and environmental impacts, commercial viability of the technology/product or process, management capability of the proponents, and availability of competent and reliable workforce and facilities.

#### 5.2.4 BIST

- 5.2.4.1 All proposals for technology acquisition submitted should be in line with the priority industries identified by the DTI, namely:
  - a. Agri-processing (includes drug and herbal development)
  - b. Agriculture, Fishery and Forestry
  - c. IC Design
  - d. Semi-conductor and Electronics
  - e. Creative Industries/Knowledge-based Services
  - f. Renewable Energy
  - g. Industrial Waste Treatment
  - h. Information and Communication Technology (includes Artificial Intelligence)
  - i. Food and Nutrition
  - j. Infrastructure and Logistics
  - k. Environment and Climate Change
  - I. Manufacturing
- 5.2.4.2 The technology to be acquired must be a registered Intellectual Property (Patent/Copyright/Industrial Design) with proven and significant sales volume

J. T. Alfini

- 5.2.4.3 The proposed technology must be tangible in nature or can be incorporated into tangible product
- 5.2.4.4 The hardware/software to be acquired must be used for R&D
- 5.2.4.5 The technology provider must not hold controlling stake in any private company in the Philippines.
- 5.2.4.6 The appropriate Council shall regularly monitor the company. Failure to deliver the expected outputs after Year 1 will be a ground for project termination and the beneficiary shall be obliged to return all financial assistance released without need of further demand. Failure on the part of the beneficiary to return the amount shall be basis for appropriate legal action.
- 5.2.4.7 The criteria for evaluation will be based on the workability/technical viability of the proposed projects, social and environmental impacts, commercial viability of the technology/product or process, management capability of the proponents, and availability of competent and reliable workforce and facilities.
- 5.2.4.8 Funding Structure

ł

Through BIST, the DOST shall provide financial assistance to the private sector industries through the following funding structure:

For licensing of technology and purchase of equipment, 70% of the eligible expenses. The remaining 30% of funding must be sourced by the applicant.

### 5.2.4.9 Fund Release

- Upon approval of the proposal, a Memorandum of Agreement (MOA) or Memorandum of Instruction (MOI) shall be issued by the Project Management Office (PMO) – Office of the Undersecretary for R&D. The schedule of fund releases and the submission of required outputs shall be agreed to and indicated in the MOA.
- b. DOST shall release the project funds to the Implementing Agency in partial or full amount, once the MOA/MOI or conforme letter has been signed subject to availability of funds, accounting and auditing regulations, and bond requirements (if necessary).

c. Project funds shall be deposited in an authorized government depository bank.

d. Subsequent release of funds to continuing projects shall be subject to the submission of necessary financial reports, appropriate endorsement and other requirements.

The BIST Program will be funded under the DOST-GIA and it shall be governed by the GIA Guidelines particularly the grants administration, refund mechanism, and the cost, maintenance, and ownership of equipment.

### 5.2.4.10 Funding Mechanism

a. The proposed technology acquisition shall be a multi-year project with a duration of three (3) to five (5) years.

J.T. U. Fini

- b. Refund of project funds shall commence on the third year of the project and shall be clearly stated in the MOA of the project. Refund shall be for a period of three (3) to five (5) years depending on the nature of the technology acquired and financial capacity of the proponent subject to the approval of the DOST-EXECOM.
- c. The release of funds to the private sector will only take effect after the approval of the project which shall undergo Technology Needs Assessment, and the DOST-GIA evaluation process through the DOST Councils PCAARRD, PCHRD, PCIEERD and NRCP, for endorsement and approval of the DOST-Executive Committee.
- d. Once the project is approved, a Memorandum of Agreement (MOA) shall be signed by the concerned parties. Once signed and notarized, the release of funds will be processed. Surety bond for the refund shall be submitted by the proponent, shall be regularly updated, and shall be callable on demand.
- e. The DOST and the Monitoring Agency shall ensure that funds are used to purchase or fabricate materials/equipment as indicated in the approved Line-Item-Budget (LIB). Otherwise, the amount provided for such purpose shall be refunded to the Funding Agency. The Funding Agency shall impose 12% penalty charge per annum if the project funds were not used as originally intended, without prejudice to additional claims for damages.
- f. If a beneficiary is unable to refund the total amount due to the Funding Agency, DOST shall pull-out the equipment procured under the project or pursue other remedial actions as warranted. If it is not possible to get the equipment back, the DOST shall initiate legal proceedings in coordination with the insurance company concerned.
- g. Regional Offices (ROs) will assist the monitoring agency to ensure refund is made as scheduled to DOST- Central Office (DOST-CO).

#### 6. PROCEDURES FOR PROPOSAL SUBMISSION, EVALUATION AND APPROVAL

- 6.1 NICER Program
  - 6.1.1 Interested HEIs shall submit their capsule proposals (DOST Form No. 1A and 1B downloadable from www.dost.gov.ph, to the DOST Regional Office, for endorsement to the Office of the Undersecretary for Research and Development. It is recommended that a corresponding proposal under RDLead Program be submitted, to synergize with the HEI's NICER proposal.
  - 6.1.2 The capsule proposals will undergo initial evaluation from the DOST Councils PCAARRD, PCHRD, PCIEERD and NRCP. Responsive proposals will be endorsed to the Office of the Undersecretary for Research and Development, and proponents will be requested to submit a full-blown proposal together with other documentary requirements for further review. The endorsement of the RDC is a requirement for the submission of the fullblown proposal.
  - 6.1.3 The full-blown proposals will undergo the DOST-GIA evaluation process through the DOST Councils PCAARRD, PCHRD, PCIEERD and NRCP, for endorsement and approval by the DOST-Executive Committee.

J. F. R. Ami

### 6.2 RDLead Program

 $\partial$ 

- 6.2.1 The HEI in coordination/consultation with the DOST Regional Office, and the Regional Development Council (RDC) through its Regional Research, Development and Innovation Committee (if existing) will identify the expert/s who will lead the establishment or upgrading of priority niche centers from 2017-2022. In cases when the HEI has not identified its RDLeads yet, then it may write the NRCP for assistance, stating the specific skills, qualifications, and expected outputs being sought. The NRCP provides the HEI or RDI with a list of experts from its roster of members who match the HEI or RDI needs. The NRCP may also issue a call for applicants.
- 6.2.2 The HEI/RDI shall submit to the DOST Regional Office the application package of the proposed expert for the RDLead Program (together with the NICER proposal, if any) for endorsement to the National Research Council of the Philippines.
- 6.2.3 The procedure for evaluation and selection for RDLeads:
  - 6.2.3.1 Upon receipt of the application package, the NRCP will check and ensure the completeness of the requirements submitted.
  - 6.2.3.2 The NRCP will write the HEI/RDI to acknowledge receipt of the application package, and/or inform and require the expert to submit the lacking documents, for those with incomplete applications.
  - 6.2.3.3 Complete applications will be referred to the NRCP Evaluation Committee (NEC) for evaluation.
  - 6.2.3.4 The applicants will be shortlisted and notified for interview by the NEC, as needed. Applicants who do not meet the qualification requirements will be notified as soon as possible.
  - 6.2.3.5 Qualified applicants will be endorsed to the Executive Director of the NRCP. The Executive Director of NRCP, on the other hand, shall inform the DOST-EXECOM of the successful RDLead Program applicants. Successful applicants will be notified by NRCP with a copy furnished to the HEI/RDI, the DOST Regional Office, the Office of the Undersecretary for R&D, and the Office of the Undersecretary for Regional Operations.
  - 6.2.3.6 The National Research Council of the Philippines will facilitate the hiring of the RDLeaders. The process for the procurement of consulting/professional services will follow the provisions of R.A. 9184 and its IRR. The rate of remuneration will be determined by the NRCP, which shall be based on the proposed nature and scope of RDLead's work.
  - 6.2.3.7 The applicant signs a conforme to the Terms of Reference (TOR) which will also be signed by the requesting HEI or RDI, and the NRCP.
  - 6.2.3.8 NRCP will process the payment for the RDLeaders upon the satisfactory completion of deliverables as certified by the HEI or RDI. The payment shall be made in three tranches as a condition of payment based on the agreed duration of engagement.

J. J. Klofini

13

- 6.2.3.9 In cases when the NICER programs across the regions are identified and accepted, an independent RDLead applicant may be engaged/chosen to manage the NICER programs that still have no RDLeaders.
- 6.2.3.10 The NEC will formulate the criteria and procedure for the screening and selection of RDLead Program applicants including the: (a) general qualifications and terms of reference; (b) specific qualifications according to sector/area (to include R&D expectations).
- 6.2.3.11 The NEC will also review the existing operational guidelines and recommend changes deemed necessary for the smoother implementation of the Program.

#### 6.3 CRADLE Program

- 6.3.1 The applicants (the HEI/RDI and the partner company) shall submit a letter of intent and capsule proposal to the Office of the Undersecretary for R&D. The letter of intent should be signed by both the HEI/RDI and the partner company. The proposal should be a joint undertaking between the HEI/RDI and the partner company.
- 6.3.2 The capsule proposal should follow the DOST Form No. 1A and 1B formats that are downloadable from www.dost.gov.ph.
- 6.3.3 The proposals will undergo the DOST-GIA evaluation process through the DOST Councils – PCAARRD, PCHRD, PCIEERD and NRCP, for endorsement and approval by the DOST-Executive Committee.

#### 6.4 BIST Program

- 6.4.1 Interested private companies shall submit a letter of intent to avail of assistance under the BIST Program to the Office of the Undersecretary for R&D (OUSEC R&D).
- 6.4.2 The letter of intent shall be accompanied with a capsule proposal using DOST Form No. 1A and 1B downloadable at the DOST website: www.dost.gov.ph.
- 6.4.3 The OUSEC R&D through PCAARRD, PCHRD and PCIEERD shall conduct a Technology Needs Assessment (TNA), if and when necessary, to identify the company's current issues/concerns that need to be addressed, requirement for improvements and potential scientific and technological interventions needed.
- 6.4.4. The proposals shall undergo the DOST-GIA evaluation process through the DOST Councils - PCAARRD, PCHRD, PCIEERD and NRCP, for endorsement and approval of the DOST-Executive Committee.

#### 7. APPLICATION REQUIREMENTS

- 7.1 NICER Program
  - 7.1.1 Capsule proposal on the establishment of an R&D Center following the DOST Form No. 1A and 1B formats.

J. T. Keffind 14

- 7.1.2 Letter of Endorsement from the Regional Development Council (RDC). The Regional Office (RO) may also endorse the capsule proposal while Consortium can also endorse the capsule proposal for agriculture, aquatic and natural resources types of research. However, the endorsement of the RDC is required for the full-blown proposal once the capsule proposal is accepted.
- 7.1.3 Line Item Budget (LIB)
- 7.1.4 Curriculum Vitae (CV) of Project leader and other co-researchers/implementers
- 7.1.5 Other additional requirements that may be needed:
  - a. Inventory of MS/PhD Faculty Members and Researchers
  - b. Number of graduate students (MS/PhD) per course
  - c. List of existing R&D centers and Technology Licensing Office/Technology Transfer Office in the HEI proponent
  - d. List of Publications of involved personnel
  - e. List of collaborating and cooperating partner Universities with corresponding letter(s) of support from them
  - f. For complete details on the eligibility of the proponents, application requirements, general criteria for evaluation, proposal formats, technical and financial monitoring, report submission and other provisions related to this funding, please refer to the Revised Guidelines of the DOST-Grants-In Aid Program (DOST-GIA).

#### 7.2 RDLEAD Program

- 7.2.1. The application package of the expert shall contain the following requirements:
  - a. Accomplished RDLead Form 1 Expert's Profile with 2" x 2" photo downloadable at the dost website: <u>www.dost.gov.ph</u>.
  - b. Updated detailed curriculum vitae
  - c. Terms of Reference
  - d. Plan of Action in Gantt Chart
  - e. Photocopy of diploma or transcript of academic record for highest degree attained, and/or certificate of academic achievements
  - f. Medical Certificate
  - g: Copy of valid professional license, if applicable
  - h. Certified true copy of Employment Certificate with salaries or latest filed Income Tax Return (ITR) and Business Registration for those who own business

J. T. Kl. Reni

#### 7.3 CRADLE Program

- 7.3.1 Capsule Proposal using the DOST Form No. 1A and 1B downloadable from www.dost.gov.ph.
- 7.3.2 Business plan that includes details of how the research outputs from the projects will be used
- 7.3:3 Certification from the private sector partner that the R&D output will be adopted by the company.
- 7.3.4 Copy of business permits and licenses of the private sector partner from relevant LGUs and other government offices
- 7.3.5 Financial statements of at least the past three years for the private sector partner duly signed by a Certified Public Accountant/Auditor, and projected financial statements for the next five years
- 7.3.6 Certificate of Registration of Business name with Department of Trade and Industry (DTI), Securities and Exchange Commission (SEC), or Cooperative Development Authority (CDA)
- 7.4 BIST Program
  - 7.4.1 Capsule proposal following the DOST format (DOST Form:1A and 1B)
  - 7.4.2 Letter of intent to avail of the BIST assistance; stating commitment to refund the cost of technology acquisition and cover the insurance cost of the acquired technology/equipment
  - 7.4.3 Fully accomplished DOST TNA Form 1, "Application for Technology Needs Assessment"(<u>http://dost.gov.ph/knowledge-resources/downloads/category/4-forms</u>), to be conducted by appropriate Councils
  - 7.4.4 Copy of business permits and licenses issued by the LGUs and other government offices
  - 7.4.5 Certificate of registration with the DTI or SEC, whichever is applicable
  - 7.4.6 Financial statements for the last two (2) years
  - 7.4.7 Business plan including itemized costing, manufacturing and operational plan, and financial projection
  - 7.4.8 Curriculum Vitae (CV) of Management and Technical Team
  - 7.4.9 Technology Transfer Agreement (Licensing/Outright purchase)
    - a. Amount of licensing
    - b. Market territory
    - c. Royalty
    - d. Duration

J. r. Defini 16

- e. Exclusivity
- f. Payment schedule
- g. Project milestone

# 8. PRIORITY AREAS FOR FUNDING

8.1 NICER Program

- 8.1.1 Each R&D Center that will be established under the NICER Program will be implemented as an R&D program consisting of institution building and related projects, for funding under the DOST Grants in Aid (GIA) Program.
- 8.1.2 The thrust of each R&D Center will be consistent with the Harmonized National Research and Development Agenda 2017-2022, and aligned with the Philippine Development Plan 2017-2022.
- 8.1.3 The R&D Centers will be anchored on industry needs, as identified by the Regional Development Council (RDC).

8.2 CRADLE Program

- 8.2.1 All projects under the CRADLE Program shall be anchored to the priority areas identified in the HNRDA 2017-2022 and aligned with the Philippine Development Plan 2017-2022.
- 8.2.2 For 2013-2017, the Agenda focused on poverty alleviation and inclusive growth; and climate change adaptation/mitigation and disaster risk reduction. By 2022, the Philippines shall have developed a wide range of globally competitive products and services, which have high technology content.

#### 8.3 BIST Program

- 8.3.1 In scaling up and opening R&D opportunities to a broader segment of the population, the BIST Program will prioritize the following industry sectors.
  - a. Agri-processing (includes drug and herbal development)
  - b. Agriculture, Fishery and Forestry
  - c. IC Design
  - d. Semi-conductor and Electronics
  - e. Creative Industries/Knowledge-based Services
  - f. Renewable Energy
  - g. Industrial Waste Treatment
  - h. Information and Communication Technology (includes Artificial Intelligence)

J. T. K. Am

- i. Food and Nutrition
- j. Infrastructure and Logistics
- k. Environment and Climate Change
- I. Manufacturing

### 9. PROCUREMENT AND OWNERSHIP OF EQUIPMENT

- 9.1 The first quarter of the implementation of the project will be allotted to the procurement of supplies and equipment as specified in the Line-Item-Budget (LIB) of the project. During this period, only the project staff responsible for procurement shall be hired.
- 9.2 All procurements will be subject to the provisions of Republic Act 9184 and its IRR. In case of purchase of high-tech equipment and machinery, the following sections may be applied:
  - a. Section 48.2 The Alternative Method of Procurements

The Procuring Entities shall adopt competitive bidding as the general method of procurement and shall see to it that the procurement program allows sufficient lead time for such competitive bidding. Alternative methods of procurement shall be resorted to only in highly exceptional cases provided for in this Rule.

- b. Section 49.1 Limited Source Bidding, otherwise known as selective bidding It is a method of procurement of Goods and Consulting Services that involves direct invitation to bid by the Procuring Entity from the list of pre-selected suppliers or consultants with known experience and proven capability on the requirements of the particular contract. This alternative method of procurement may be employed under any of the following conditions:
  - b.1 Procurement of highly specialized types of goods (e.g., sophisticated defense equipment, complex air navigation systems, coal) and consulting services where only a few suppliers or consultants are known to be available, such that resorting to the competitive bidding method will not likely result in any additional suppliers or consultants participating in the bidding;
  - b.2 Procurement of major plant components where it is deemed advantageous to limit the bidding to known qualified bidders in order to maintain uniform quality and performance of the plant as a whole
- c. Section 50. Direct Contracting or Single Source Procurement

Procurement of Goods that does not require elaborate Bidding Documents. The supplier is simply asked to submit a price quotation or a pro-forma invoice together with the conditions of sale. The offer may be accepted immediately or after some negotiations. Direct contracting may be resorted to by concerned Procuring Entities under any of the following conditions:

- c.1 Procurement of Goods of proprietary nature which can be obtained only from the proprietary source, i.e. when patents, trade secrets, and copyrights prohibit others from manufacturing the same item;
- c.2 When the procurement of critical components from a specific supplier is a condition precedent to hold a contractor to guarantee its project performance, in accordance with the provisions of its contract; or

J. T. Kl. Heni

- c.3 Those sold by an exclusive dealer or manufacturer which does not have sub-dealers selling at lower prices and for which no suitable substitute can be obtained at more advantageous terms to the GoP.
- 9.3 In accordance to Section 17 of Government Accounting Manual (GAM) for National Government Agencies (NGAs) which is the Acquisition of Property, Plant and Equipment (PPE) through Fund Transfer to other Government Agencies or Civil Society Organizations (CSOs) (aggregate of nongovernmental organizations and institutions), the implementation of projects through funds transferred to other government agencies may require the acquisition of the necessary PPE. For proper monitoring and accountability, the following policies shall be followed for NICER, CRADLE and RDLead:
  - a. Acquisition by Source Agency/Entity
    - a.1. The source agency/entity shall record and monitor the PPE purchased out of transferred funds to CSOs when the PPE meets the recognition criteria and the MOA/U provides that the PPE will be returned to the source agency/entity
    - a.2. The source agency/entity shall monitor the PPE purchased out of transferred funds to other government agencies but shall not record the PPE until it is returned by the implementing agency
  - b. Acquisition by Implementing Agency/Entity

The implementing agency/entity shall record and monitor the PPE purchased out of interagency transferred funds when the PPE meets the recognition criteria. At the end of the project, the transfer shall be made in accordance with the MOA/U as in the following cases:

- b.1. Case 1 The MOA/U provides that the PPE will be donated to the implementing agency/entity
- b.2. Case 2 The MOA/U provides that the PPE will be returned by the implementing agency/entity to the Source Agency/Entity

In case the PPE may be used for a succeeding project or program, it may be retained by the implementing agency, until completion of the succeeding project or program, subject to completion of all documentary requirements.

- 9.4 For the BIST program, once the amount is fully refunded, ownership of the equipment shall be transferred to the implementing agency.
- 9.5 Any revision of relevant government accounting and auditing rules and regulations shall apply.

# **10. PROJECT IMPLEMENTATION AND MONITORING**

10.1 NICER, CRADLÈ and BIST Programs

The Project Management Office for the Science for Change Program (PMO-S4C) will ensure the effective and efficient implementation of the four (4) programs. It shall perform coordinating and Secretariat functions required in the accomplishment of the program objectives, as well as promote the various programs. It shall include rules for possible changes in implementation date, extension of duration, project completion and termination which are consistent with the Implementing DOST-GIA guidelines.

J. T. K. Firi

- 10.1.1 For NICER Program, the DOST shall provide funding assistance to projects for a maximum of three (3) years. It is understood that the funded initiatives will be institutionalized by the implementing agencies to ensure the success and sustainability of the R&D Centers in the regions.
  - a. The Human Resource Development (HRD) component shall be charged against DOST-SEI funds thru the usual SEI process.
- 10.1.2 For CRADLE Program, an Academe-Industry Forum will be convened.

To start collaboration, aside from the call for proposals, DOST may conduct a forum between private industry and HEI.

a. For Large Filipino Companies (LFCs)

A single large Filipino Company will state its problem to a group of HEIs; collaboration will transpire between the LFC and the chosen HEI that can resolve its problem.

b. For SMEs

Several SMEs will state their problems to the HEIs and collaboration may materialize based on the most appropriate HEI-SME problem-solution.

10.1.3 For CRADLE and BIST Programs, a Steering Committee will be convened. It will consist of representatives from Private industry Sector, Department of Trade and Industry (DTI), and the three (3) DOST Sectoral Councils.

#### 10.2 RDLead Program

- 10.2.1 PMO-S4C shall perform coordinating functions with NRCP to accomplish the program objectives and promote the program. It shall include rules for possible changes in implementation date, extension of duration, project completion and termination which are consistent with the DOST-GIA Guidelines.
- 10.2.2 NRCP will facilitate and recruit suitable applicants for the RDLead Program so that from the outset of capsule proposal writing of both the NICER and RDLead, the HEI (or RDI) will already be working with the potential expert. For NICER Program, the NRCP may provide a list of suitable candidates from its members or from its network of contacts. That way when the proposals will be bid out for Consultants, the Program will have an assurance that there will be at least one expert who will participate. Specifically, the NRCP will do the following:
  - Actively announce through its website, email groups, related DOST links, and the social media, as well as through its Scientific Division meetings the NICER and RDLead Programs, and consequently call for RDLead applications. The NRCPwill assist the Division Chairs in announcing these programs at their divisional meetings;
  - b. Write to existing and potential NICER hosts (HEI/RDI) about the call for RDLead applications. HEIs/RDIs wishing to submit RDLead applications will coordinate with NRCP which can provide a list of experts for the guidance and reference of HEIs/RDIs, upon request;
  - c. Once the RDLead proposal is approved, NRCP will procure the consulting services in accordance to the provisions of RA 9184;

J. J. Mofuni

d. NRCP will work with the concerned HEI/RDI in crafting the TOR, and in assisting the HEI/RDI to ensure that the targeted applicant for RDLead will satisfy the needed requirements to qualify as Consultants;

÷

- e. NRCP will verify the documents submitted by the potential Consultants that these are in compliance with the required TOR and government regulations;
- f. Following government bidding procedures/assignment of Consultants, the NRCP then awards the RDLead to the designated/qualified Consultant.
- g. RDLeaders will submit regular progress reports to NRCP, as indicated in the Terms of Reference (TOR) and endorsed by the HEI/RDI.

### **11. GENERAL PROVISIONS**

- 11.1 It is understood that these guidelines are consistent with the Implementing Guidelines for GIA Programs and Projects. In case of conflict, the GIA guidelines shall prevail.
- 11.2 The DOST shall have the right to determine whether there is failure to comply with the applicable laws, rules and regulations, particularly those governing GIA programs and projects, as basis for the termination of the project.
- 11.3 The guidelines shall be subject to applicable rules and regulations of the Commission on Audit (COA).
- 11.4 In case any provision hereof shall be declared invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.
- 11.5 Ownership and Utilization of IPs and Intellectual Property Rights (IPRs) resulting from the program or projects shall be governed by the Philippine Technology Transfer Act of 2009.

#### **12. EFFECTIVITY**

This Administrative Order shall take effect fifteen (15) days after publication in the Official Gazette and upon filing at the UP Law Center.

Approved By:

FORTUNATO T. DE LA PEÑA

× .

21

Secretary



.



Republic of the Philippines

DEPARTMENT OF SCIENCE AND TECHNOLOGY

26 January 2018

# SECRETARY FORTUNATO T. DE LA PEÑA

Department of Science and Technology Bicutan, Taguig City

# Dear Secretary De La Péña,

I am pleased to submit herewith, the "Guidelines for the Accelerated R&D Program for Capacity Building of Research and Development Institutions and Industrial Competitiveness of the Science for Change (S4C) Program", for your approval and signature.

We hope you find the guidelines in order.

Thank you.

Sincerely yours,

INA L. GUEVARA, Ph.D. ROWENA CRIS Undersecretary for R&D



Head Office: Gen. Santos Ave., Bicutan, Taguig City Website: www.dost.gov.ph Postal Address: P.O. Box 3596 Manila Tel. No. 837-2939 (DL) Fax No. 837-2937