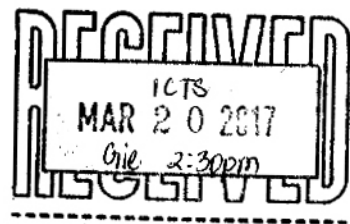




Republic of the Philippines
DEPARTMENT OF AGRICULTURE
Office of the Secretary
Elliptical Road, Diliman, Quezon City



March 6, 2017

Memorandum Order

No. 13

Series of 2017

SUBJECT: GENERAL GUIDELINES ON THE IMPLEMENTATION OF SOLAR-POWERED IRRIGATION SYSTEM OF THE DEPARTMENT OF AGRICULTURE

I. COVERAGE OF THE GUIDELINES

These Guidelines shall cover the implementation of Solar-Powered Irrigation System (SPIS) under the Department of Agriculture (DA). This includes the SPIS being implemented under the National Rice and Corn Program, High Value Crops Development Program and National Organic Agriculture Program of the DA.

II. GENERAL POLICY GUIDELINES

The SPIS shall be the flagship program of the DA through the Bureau of Soils and Water Management (BSWM) under the Small-Scale Irrigation Project (SSIP).

The BSWM in close coordination with DA-Central Agriculture and Fishery Engineering Division (CAFED) of the Field Operation Service shall provide the over-all direction on the planning and development of SPIS. The DA-Regional Field Offices (RFOs) shall undertake the implementation of SPIS within their respective regions.

All SPIS can be availed by qualified beneficiaries and proponents under the various programs of the DA through full grant. The National and Regional Research Centers of DA, Agricultural Demonstration Areas of Local Government Units (LGUs) and Research Centers of State Universities and Colleges (SUCs) are considered qualified beneficiaries.

III. IMPLEMENTATION

Roles and Responsibilities of Implementing Agencies

A. The BSWM shall:

1. Lead the annual updating of plans and targets for SPIS in coordination with CAFED and RFOs for integration to the National SSIP Master Plan;
2. Review the Detailed Engineering Design (DED) and Program of Work (POW) of SPIS prepared by the RFOs per technical requirements, prior to submission to CAFED;
3. Provide technical assistance (e.g. validation, preparation of engineering plans and installation) to RFOs, LGUs and Farmers' Association (e.g. SSIP Associations or SWISA) including capability building through conduct of specialized training courses;
4. Monitor the planning and implementation of SPIS by the RFOs jointly with CAFED; and
5. Consolidate and assess periodic reports of RFOs for submission to DA

- B. The CAFED shall:
1. Provide technical and administrative assistance to BSWM and RFOs to facilitate planning and implementation of SPIS;
 2. Review the DED and POW of SPIS relative to existing Philippine Agricultural Engineering Standards (PAES)
 3. Coordinate to DA programs for allocation of funds
 4. Monitor the planning and implementation of SPIS by RFOs jointly with BSWM; and
 5. Conduct assessment jointly with BSWM and DA-Planning Service on the contribution of SPIS to agricultural targets.
- C. The RFO shall:
1. Update and review annual proposed SPIS for submission to BSWM;
 2. Prepare DED and POW per project and submit to BSWM for review;
 3. Implement the approved and funded SPIS;
 4. Provide technical assistance to recipients, LGUs and other concerned agencies/organizations (e.g. SWISA)
 5. Submit periodic reports to BSWM during projects' implementation for consolidation, assessment and submission to DA; and
 6. Assist the recipients in the availment of the warranty and after sales service.

IV. SPECIFIC GUIDELINES FOR SOLAR-POWERED IRRIGATION SYSTEM

Solar-Powered Irrigation System (SPIS)- An irrigation system powered by solar energy, consists of one or more solar panels (also known as solar modules or solar plates), a pump, electronic controls or a controller device to operate the pump, storage tank, and conveyance structures.

1. Coverage area of one system
 - Rainfed area
 - With a minimum service area of 10ha for rice.
 - With a minimum service area of 3ha for non-rice (e.g. corn vegetables and other high value crops)

Details of the site selection criteria is attached as Annex 1.

2. Qualified beneficiaries
 - Organized farmers or group of farmers with at least 15 members who are willing to be organized and be registered to concerned government agencies for rice
 - Group of 3-5 farmers for non-rice (e.g. corn, vegetables and other high value crops)
3. Mandatory Requirements
 - Proposed site must have sustainable water source (open source and groundwater);
 - Right of way agreement in the form of Deed of Sale, Deed of Donation, or Usufruct Agreement not less than 25 years, for location of reservoir/storage tanks and solar array;
 - Engineering plans and detailed design and program of work to be signed and sealed by Licensed Agricultural Engineer per RA 10915 also known as Agricultural and Biosystems Engineering Act of 2016.

4. Testing and Commissioning

- Testing and commissioning of the constructed facilities shall be conducted by the contractor in coordination with the DA-RFOs. The recipient shall be involved in the testing and adjustments to be conducted; and
- No acceptance report shall be signed by the DA-RFOs unless the SPIS has already complied with the desired performance and set standards. A Test Report shall be secured by the DA-RFOs for file keeping.

5. Occurrence of Natural Damages and Provision of Insurance

- The recipient shall apply for insurance of the facility in the Philippine Crop Insurance Company (PCIC) of which DA shall shoulder the premium for the first year of operation which will be included in the total project cost; and
- In case of force majeure, the DA-RFOs shall exert effort in utilizing savings for the rehabilitation of SPIS.

V. RESPONSIBILITIES OF FARMER-BENEFICIARIES/PROJECT RECIPIENTS

The SPIS shall be turned-over to the recipients/beneficiaries. As such, they shall be responsible in the operation and maintenance of the system upon turn-over, including the cost of minor repairs and cost of parts after the warranty period, except for repairs that were caused by *force majeure*.

For them to perform their responsibilities, they should be capacitated continuously by attending relevant trainings (e.g. trouble-shooting and maintenance of SPIS) being provided by DA and other agencies.

VI. LAND ACQUISITION COST FOR AFFECTED AREAS

The cost of the affected lands particularly the area for reservoir/storage tanks and solar array shall be included in the total project cost in accordance with the provisions embodied in RA No. 10752 OF 2016, otherwise known as "The Right-of-Way Act". However, per agreement among the implementing/operating units, best efforts to settle the ROW issue should be undertaken first by the target recipients and concerned LGU prior to approval of the proposed site by RFO. Hence, documents pertaining to the settlement of ROW are included as one of the mandatory requirements for site selection.

However, per past experiences of the implementing offices, ROW problem may still exist despite settlement of the issue has been resolved prior to approval of the project. In order to prevent the abandonment and discontinuance of the project, the estimated cost for ROW will be integrated in the Project Management Fund in case a conflict will arise during the project's implementation.

This cost shall be included in the proposed projects for CY 2018 onwards. To ensure timeliness of the review of proposals by BSWM and CAFED, and submission to DA Program and DBM, the DED and POW must be prepared during the 4th quarter of the current year. Take note that the SPIS proposal is submitted a year ahead of the date of implementation. For instance, the CY 2018 proposals' DED and POW have to be prepared 4th quarter of 2016 to be reviewed by BSWM and CAFED during the 1st quarter of 2017 prior to submission to DA's Program then to DBM.

VII. GENERAL ENGINEERING SUPERVISION AND ADMINISTRATION (GESA)

This cost is estimated at 3.5% of the total project cost.

VIII. REVIEW OF PROJECT PROPOSAL

No proposal shall be recommended for funding to DA Programs unless reviewed by BSWM and CAFED. The submitted proposals shall be reviewed based on the following criteria:

- Included in the annual updated lists
- With complete DED and POW
- Compliance with the PAES
- Supported with Feasibility Study with positive economic indicators
- Complete documents relative to land acquisition for location of reservoir/storage tank and solar array.

IX. SUPPLEMENTAL GUIDELINES

1. All DA-RFOs and DAF-ARMM are hereby authorized to formulate detailed supplemental guidelines to address peculiar situations of a particular region or to clarify further those indicated in the Memorandum Order. A copy of all regional issuance for supplemental guidelines shall be officially furnished to the BSWM and Banner Programs Secretariat within seven (7) working days from the date of its release.
2. The DA Secretary may authorize the DA-RFOs to adopt and implement other modalities or schemes in the implementation of SPIS.

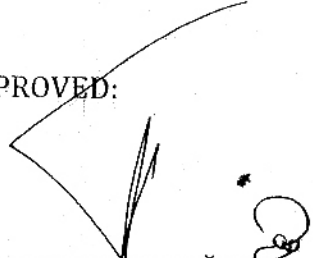
X. RESOLUTION OF ISSUES UNDER THIS IMPLEMENTING GUIDELINES

All issues and concerns pertaining to these implementing guidelines shall be forwarded to the Office of the BSWM Director for appropriate and immediate action.

XI. EFFECTIVITY

This General Guidelines shall take effect immediately and shall repeal all issuances inconsistent herewith.

APPROVED:


EMMANUEL F. PIÑOL
 Secretary

ANNEX 1
SITE VALIDATION REPORT FOR RENEWABLE SOURCES OF ENERGY
(SOLAR, WIND AND RAM PUMPS) FOR IRRIGATION

I. BACKGROUND INFORMATION who joined in the site validation? Please attach the request letter.	
II. OBSERVATIONS AND FINDINGS (to include potential issues and problems, etc:	
A. Project Profile:	
1. Name of project: <i>(include type of Renewable energy)</i>	
2. Location (Brgy, Mun, Prov, Reg):	
3. Coordinates (Lat and Long) at water source, pump, panel and service areas	
4. Type of climate:	
5. Wind velocity and direction	
6. Source of water: (open or well, spring, river, etc.)	
7. Crops/Cropping pattern	
8. Cropping calendar	
9. Average yield (Mt/ha/season):	
10. Potential irrigable area (ha):	
11. Potential no. of beneficiaries/ Tenural Status (owner/tenant)	
12. Soil texture/type of service area:	
13. Watershed area/condition/vegetation: (If applicable)	
14. Stable discharge of water source (lps): <u>Well</u> depth, well size, static water level, recharge rate, proximity to other wells, withdrawal rate <u>Rivers, lakes</u> (min & max. elev.) floodmarks, river bank height, etc. <u>Spring</u> discharge, elevation and distance	
15. Name of organization (if there's any):	
16. Others	
B. Other observations: (e.g. appreciation/reception of the community, impression from/reaction of the people, etc.) Presence and distance of electric grid from the project site.	
III. RECOMMENDATIONS (to include future activities, resolutions of issues and potential constraints, decisions whether feasible or not and why, etc):	
IV. PHOTO DOCUMENTATIONS (to include date and name of photographer): Geo-tagged pictures, satellite images from google earth, others ; should be colored and with captions/label as to location and distance of water source to pump and solar panel and distance of tank to service area, etc.	

Date validated: _____

Validated by: _____ Name of Agricultural Engineer

Noted by: _____ RAED Chief

Recommending Approval: _____ RTD for Operations

Approved by: _____ RED