[NMRIA MEMORANDUM CIRCULAR NO. 001, February 16, 2012]

IMPLEMENTING RULES AND REGULATIONS OF ADMINISTRATIVE ORDER NO. 16, DATED 05 JULY 2011, ENTITLED "DIRECTING GOVERNMENT ENTITIES TO COORDINATE WITH THE NATIONAL MAPPING AND RESOURCE INFORMATION AUTHORITY IN THE ACQUISITION OF DATA FROM AIRBORNE AND SPACEBORNE PLATFORMS FOR USE IN THEIR RESPECTIVE PROJECTS"

Section 1. Short Title and Purpose - This Implementing Rules and Regulations, hereinafter called the IRR of Administrative Order No. 16, dated 05 July 2011, is for the purpose of prescribing the rules and regulations for the procurement of data from airborne and spaceborne platforms by government agencies in their respective projects.

Section 2. Declaration of Policy - The provisions of this IRR are in line with the cross-cutting strategy under the Philippine Development Plan 2011-2016 to rationalize and coordinate all mapping activities in order to achieve optimum use of financial and human resources in the acquisition of data from airborne and spaceborne platforms for the production of various map products, and result in data compatibility and utmost use of geographic information.

Section 3. Governing Principles - The provisions of this IRR shall be governed by these principles:

3.1 Transparency through dissemination among government agencies of geographic information holdings in the form of aerial photographs, satellite imageries and related map products, in order to facilitate sharing and access by the different user-agencies.

3.2 Streamlined procurement process for airborne and satellite based images that will be adaptable to the needs of government and in consonance with advances in mapping technology.

3.3 Monitoring availability and procurement of geographic information by government agencies to ensure immediate utilization as planning tools in times of emergencies or calamities thereby enhancing disaster response planning capability .

3.4 Coordination among government agencies in the production of various types of maps through sharing of geographic data and information, thus preventing duplication of activities and wasteful use of resources.

Section 4. Scope and the Application of IRR

4.1 Scope

This IRR shall apply to all government agencies, local government units (LGUs), government-owned and controlled corporations (GOCCs), Government Corporate Entities (GCEs), Government Instrumentalities with Corporate Powers (GICPs), Government Financial Institutions (GFIs), and State Universities and Colleges (SUCs), herein referred to collectively as "Government Entities".

4.2 Data To Be Procured

This IRR applies to the acquisition of data from airborne and spaceborne platforms and other related products and services that would require the aforementioned data for mapping purposes.

4.2.1. From airborne platform, such as:

a. aerial photographs
b. DEM and Intensity Image from LIDAR
c. DEM/Intensity Image from SAR/IFSAR(INSAR)
d. Hyperspectral Images

4.2.2. From spaceborne platform, such as:

a. satellite imageries
b. DEM/Intensity Image from SAR/IFSAR (INSAR)

4.2.3. Other related map products and services such as the ff:

a. thematic maps
b. topographic maps
c. orthophoto/orthoimage maps

4.3 Delimitation

All projects are covered by this IRR, except for the projects funded through foreign grants and Official Development Assistance (ODA) where procurement can remain with the Procuring Entity.

Section 5. Definition of Terms - For the purposes of this IRR, the following terms or words and phrases shall mean or be understood as follows:

5.1 Aerial Photograph – refers to image of the earth's surface taken from aerial camera onboard an aircraft.

5.2 Airborne Platform – refers to an aircraft that carries a sensor system.

5.3 DEM – an acronym for digital elevation model which is a three-dimensional representation of a terrain's surface.

5.4 *Geographic Information* – created by manipulating geographic (or spatial) data in a computerized system and comes in many different forms, such as maps or images taken from the air or space.

5.5 *Hyperspectral Images* – images collected and processed from across the electromagnetic spectrum. each image represents a range of the electromagnetic spectrum and is also known as a spectral band. These 'images' are then combined and form a three-dimensional hyperspectral data cube for processing and analysis.

5.6 *IfSAR/InSAR* - an acronym for Interferometric synthetic aperture radar, a technique which uses two or more SAR images to generate maps of surface deformation or digital elevation, using differences in the phase of the waves returning to the satellite or aircraft. The technique can potentially measure centimetre-scale changes in deformation over timespans of days to years.

5.7 *Index* - maps or listing of available data or map products.

5.8 *Intensity Image* – a data matrix, whose values represent intensities within a range in the electromagnetic spectrum with each element of the matrix corresponding to one image pixel. The elements in the intensity matrix represent various intensities, or gray levels, where the intensity 0 usually represents black and the intensity 1, 255, or 65535 usually represents full intensity, or white.

5.9 *LiDAR* - an acronym for Light Detection and Ranging, an optical remote sensing technology that can measure the distance to, or other properties of a target by illuminating the target with light, often using pulses from a laser. It allows exceptionally accurate and rapid determination of terrain and structural features (e.g. height) and produces highly accurate three-dimensional data measurements that can then be utilized by mapping, guidance, and navigation systems.

5.10 *Metadata* - data providing information about one or more aspects of the data, such as, means of creation of the data, purpose of the data, time and date of creation, creator or author of data, placement on a computer network where the data was created, and standards used.

5.11 *Orthophoto/Orthoimage Maps* – geometrically corrected ("orthorectified") aerial photographs/satellite images adjusted for topographic relief with attributes of a map such as true distances and uniform scale.

5.12 *Procuring Entity* – a government entity applying for the clearance certificate from NAMRIA.

5.13 *Procuring Agent* – refers to the Procurement Service of