

LAW OF THE REPUBLIC OF INDONESIA  
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ON  
METEOROLOGY, CLIMATOLOGY, AND GEOPHYSICS  
BY THE BLESSINGS OF ALMIGHTY GOD  
THE PRESIDENT OF THE REPUBLIC OF INDONESIA,

- Considering :
- a. that Indonesia as an archipelagic state with maritime continent regions located between two continents and two oceans as well as laid at the junction of three tectonic plates along an equatorial region which makes Indonesia very strategic with the richness and uniqueness of meteorological, climatological, and geophysical conditions;
  - b. that meteorological, climatological, and geophysical elements constitute natural resources and have the potential hazards so that they must be managed in order to improve the people's welfare;
  - c. that meteorological, climatological, and geophysical information plays a very strategic role in increasing the safety of the people's life, assets, wealth, economy, as well as security and defense;
  - d. that international and national strategic environments demand the meteorological, climatological, and geophysical implementation to be in line with the science and technology development, regional autonomy, and accountability of the government personnel by always giving the priority to the safety and security of the people for the national interest;

- e. that the development of science and technology influences the meteorological, climatological, and geophysical implementation globally so that it is necessary to be anticipated and responded through international cooperation;
- f. that given the considerations in point a, point b, point c, point d, and point e, it is necessary to enact Law on Meteorology, Climatology, and Geophysics;

Observing : Article 5 section (1), Article 20, and Article 33 section (3) the 1945 Constitution of the Republic of Indonesia;

With the Joint Approval of  
THE HOUSE OF REPRESENTATIVES  
and  
THE PRESIDENT OF THE REPUBLIC OF INDONESIA

HAS DECIDED:

To enact : LAW ON METEOROLOGY, CLIMATOLOGY, AND  
GEOPHYSICS.

CHAPTER I  
GENERAL PROVISIONS

Article 1

In this Law:

1. Meteorology means natural phenomena in relation to weather.
2. Climatology means natural phenomena in relation to climate and air quality.
3. Geophysics means natural phenomena in relation to tectonic earthquake, tsunami, gravity, ground magnet, atmospheric electricity, and time indications or signs.
4. Implementation means activities of observation, data management, services, research, engineering, and development, as well as any kind of international cooperation in meteorology, climatology, and geophysics.

5. Observation means measurement and assessment in order to acquire data or values of meteorological, climatological, and geophysical elements.
6. Data means the results of meteorological, climatological, and geophysical observations acquired at observation stations.
7. Data management means a series of processes on the data.
8. Services mean activities in relation to the information provision and dissemination as well as service provision.
9. Calibration means activities of calibration for the facilities of meteorological, climatological, and geophysical observations.
10. Facilities mean instruments used to undertake meteorological, climatological, and geophysical activities.
11. Infrastructure means meteorological, climatological, and geophysical supporting facilities.
12. Observation station means any place where an observation is conducted.
13. Research means activities performed in accordance with the principles and scientific methods in systematic and objective manners.
14. Development means activities that are intended to utilize the scientific principles and theories that have been proved true and correct.
15. Engineering means any application of science and technology in the form of design and engineering.
16. Master Plan of the Meteorological, Climatological, and Geophysical Implementation, hereinafter referred to in Master Plan, means the national guidelines for the meteorological, climatological, and geophysical implementation.
17. Observation Environment means areas around the observation stations that have direct effects to the observation results.
18. Climate Change means any change of climate which is attributed directly or indirectly to human activities that alter the composition of the global atmosphere and change of observed natural climate variability over comparable time periods.

19. Mitigation means any efforts to control in order to reduce the risks due to climate change through some activities that can reduce the emission/increase the absorption of greenhouse gas from various kinds of emission sources.
20. Adaptation means a process to strengthen and build the anticipation strategies for the impacts of climate change as well as to perform such strategies so that it can reduce the negative impacts and take up the positive impacts or benefits.
21. Indonesian Legal Entity means any state-owned enterprise, local government-owned enterprise, or enterprise or business entity in form of legal entity.
22. Certificate of Competency means a proof for a person who has fulfilled the requirements and qualifications of knowledge, skills or expertise, and qualifications in his or her field of expertise.
23. Agency means government institution that performs its duties and is responsible for meteorology, climatology, and geophysics.
24. Head of the Agency means the head who performs her or his duties and is responsible for meteorology, climatology, and geophysics.
25. Government means the President of the Republic of Indonesia who holds the power and authority of the state government administration of the Republic of Indonesia as referred to in the 1945 Constitution of the Republic of Indonesia.
26. Local Government means governors, regents or mayors, and local government apparatuses as the elements of local government administrator.
27. Any person means any individual or any corporation.

## CHAPTER II

### PRINCIPLES AND OBJECTIVES

#### Article 2

The Meteorological, Climatological, and Geophysical Implementation is based on principles of:

- a. nationality;
- b. honesty;
- c. science;
- d. public interest;
- e. benefit;
- f. balance, harmony, and synchronization;
- g. integrity;
- h. sustainability; and
- i. accuracy and prudence.

### Article 3

The meteorological, climatological, and geophysical implementation is intended:

- a. to support the safety of people's life and assets;
- b. to protect the national interest and national potency for the purpose of the improvement of national security and defense;
- c. to enhance the national independence in mastering and application of science and technology for meteorology, climatology, and geophysics;
- d. to support the policy on the national development for the purpose of realizing people prosperity;
- e. to improve wide coverage, timely, correct, accurate, and understandable information services;
- f. to sustain environmental conservation; and
- g. to enhance international relations through international cooperation.

## CHAPTER III

### FOSTERING

#### Article 4

- (1) Meteorology, climatology, and geophysics are controlled by the state and the fostering is performed by the Government.
- (2) The fostering of the meteorological, climatological, and geophysical implementation as referred to in section (1) covers:

## CHAPTER IV IMPLEMENTATION

### Part One Organizer

#### Article 6

- (1) Government is obligated to achieve the meteorological, climatological, and geophysical implementation.
- (2) The meteorological, climatological, and geophysical implementation as referred to in section (1) is performed by the Agency.
- (3) The Agency as referred to in section (2) has main duties, functions, and authorities regulated under Presidential Regulation.
- (4) The Agency as referred to in section (2) is directly under as well as accountable to the President through Minister who performs the coordination.
- (5) In addition to be performed by the Agency as referred to in section (2), the meteorological, climatological and geophysical implementation may be conducted by any government institutions, local governments, legal entities, and/or the people in accordance with the provisions of laws and regulations.
- (6) The Agency coordinates the meteorological, climatological and geophysical implementation which is performed by other government institutions and local governments.

### Part Two Master Plan

#### Article 7

- (1) Master Plan is a national guideline for the meteorological, climatological, and geophysical implementation.
- (2) Master Plan is established by considering basic capital and strategic environments.
- (3) Master Plan contains:
  - a. vision and mission;
  - b. policies;

- c. strategies; and
  - d. road-maps.
- (4) Master Plan is established and used for a period of 25 (twenty-five) years and shall be determined by the President.
- (5) Master Plan as referred to in section (4) may be reviewed once in every 5 (five) years or in accordance with the need.

Part Three  
Implementation Activities

Article 8

The meteorological, climatological, and geophysical implementation consists of the following activities:

- a. observation;
- b. data management;
- c. services;
- d. research, engineering, and development; and
- e. international cooperation.

CHAPTER V  
OBSERVATION

Part One  
General

Article 9

The meteorological observation must be conducted at least to the following elements:

- a. solar radiation;
- b. air temperature;
- c. air pressure;
- d. wind;
- e. air humidity;
- f. clouds;
- g. rains;
- h. sea waves;
- i. sea surface temperature; and
- j. sea tides.

Article 10

- (1) The climatological observation consists of:
  - a. climate; and
  - b. air quality.
- (2) Observation of climate as referred to in section (1) point a must be performed at least to the following elements:
  - a. solar radiation;
  - b. air temperature;
  - c. soil temperature;
  - d. air pressure;
  - e. wind;
  - f. evaporation;
  - g. air humidity;
  - h. clouds;
  - i. rains; and
  - j. groundwater content.
- (3) Observation of air quality as referred to in section (1) point b consists of:
  - a. air pollution which consists of the following elements:
    1. particulates (SPM, PM10, PM2.5);
    2. sulfur dioxide (SO<sub>2</sub>);
    3. nitrogen oxide and nitrogen dioxide (NO, NO<sub>2</sub>);
    4. ozone (O<sub>3</sub>);
    5. carbon monoxide (CO); and
    6. chemical composition of rainwater.
  - b. greenhouse gas which consists of the following elements:
    1. carbon dioxide (CO<sub>2</sub>);
    2. methane (CH<sub>4</sub>);
    3. nitrous oxide (N<sub>2</sub>O);
    4. hydro fluorocarbon (HFCs);
    5. per fluorocarbon (PFCs); and
    6. sulfur hexafluoride (SF<sub>6</sub>).
- (4) The climatological observation as referred to in section (1) is performed in sustainable manner for a specific period of time.

### Article 11

The geophysical observation must be performed at least to the following elements:

- a. ground tremor;
- b. gravity;
- c. earth magnetism;
- d. lunar and solar position;
- e. determination of standard time;
- f. tsunami; and
- g. atmospheric electricity.

### Article 12

The meteorological, climatological, and geophysical observation is performed at observation station.

### Article 13

- (1) The observation conducted by any Indonesian ship with certain tonnage or size, or aircraft for the interest of shipping and aviation safety is performed in accordance with the provisions of laws and regulations.
- (2) The observation results as referred to in section (1) is obligated to be reported to the Agency.
- (3) Any person who violates the provision as referred to in section (2) shall be subject to administrative sanction in form of
  - a. written warning;
  - b. temporary ban on conducting observation; or
  - c. permanent ban on conducting observation.
- (4) Further provisions on the protocols and procedures of the imposition of administrative sanction as referred to in section (3) shall be regulated by Government Regulation.

### Part Two

#### Observation Network System

### Article 14

- (1) Observation network system consists of observation stations.

- (2) Observation network system as referred to in section (1) is determined and managed by the Agency.

#### Article 15

- (1) Establishment of observation network system is performed on the basis of criteria:
  - a. types of observation;
  - b. scopes of observation;
  - c. density of inter-observation stations;
  - d. layouts of observation stations; and
  - e. types of communication devices.
- (2) The observation network system as referred to in section (1) consists of:
  - a. meteorological observation network system;
  - b. climatological observation network system; and
  - c. geophysical observation network system.

#### Part Three

#### Observation Station

#### Article 16

- (1) To perform meteorological, climatological, and geophysical observations, observation stations is obligated to be established.
- (2) The establishment of observation stations as referred to in section (1) may be performed by the Agency or any entity other than the Agency.

#### Article 17

- (1) The Observation station established by any entity other than the Agency may be incorporated into observation network system through cooperation with the Agency.
- (2) The observation station as referred to in section (1) must fulfill the criteria of observation network system.
- (3) The observation station incorporated into observation network system as referred to in section (1) is not allowed to cease its observation, either temporarily or permanently, without a permit or consent from the Agency.

#### Article 18

Each observation station established by any entity other than the Agency incorporated into observation network system may access the data that are only to support its main duties or interests.

#### Article 19

- (1) Each observation station established by any entity other than the Agency is not allowed to publish or disclose any data or observation results directly to the public unless otherwise provided by the prevailing law.
- (2) Any person who violates the provision as referred to in section (1) shall be subject to administrative sanction in the form of:
  - a. written warning;
  - b. suspension of observation station; or
  - c. closure or cessation of observation station.
- (3) Further provisions regarding the protocols and procedures for the imposition of administrative sanction as referred to in section (2) shall be regulated by Government Regulation.

#### Article 20

- (1) The observation station established by any entity other than the Agency constituting part of the observation network system is not allowed to be relocated, unless obtaining a permit from the Agency.
- (2) Any cost incurring from the relocation as referred to in section (1) is borne by and for the account of the owner of observation station.

#### Article 21

Further provisions regarding cooperation procedures and permit or consent for the relocation of observation station incorporated in observation network system shall be regulated by Government Regulation.

Part Four  
Observation Methods  
Article 22

- (1) The meteorological, climatological, and geophysical observation methods applied must be in accordance with the typical characteristics of the observation.
- (2) The observation methods as referred to in section (1) are conducted with due observance of:
  - a. concurrence of observation times;
  - b. reading and estimation;
  - c. data recording;
  - d. data classification; and
  - e. data encoding.
- (3) Observation methods as referred to in section (2) are obligated to be complied with by every observer personnel.
- (4) Any person who violates the provision as referred to in section (3) shall be subject to administrative sanction in form of:
  - a. written warning;
  - b. certificate suspension; or
  - c. certificate revocation.
- (5) Further provisions regarding the protocols and procedures for the imposition of administrative sanction as referred to in section (4) shall be regulated by Government Regulation.

Article 23

Further provisions regarding methods observation shall be regulated by the Government Regulation.

CHAPTER VI  
DATA MANAGEMENT

Article 24

- (1) Data management is conducted in order to produce fast, correct, accurate, wide-scope, and understandable information.

- (2) Data management as referred to in section (1) is required to be performed on the basis of specifically set standards.

#### Article 25

The data management as referred to in Article 24 consists of:

- a. collection;
- b. processing;
- c. analysis;
- d. storage; and
- e. access.

#### Article 26

- (1) The data management may be performed by the Agency and any entity other than the Agency.
- (2) The data management by the Agency is conducted to the observation obtained within the observation network system.
- (3) The data management by institution other than the Agency may only be done in order to support its own interest.

#### Article 27

Further provisions regarding data management shall be regulated by Government Regulation.

#### Article 28

- (1) Any person who violates the provision as referred to in Article 24 section (2) and Article 26 section (3) shall be subject to administrative sanction in the form of:
  - a. written warning;
  - b. suspension of observation station operation; or
  - c. closure of observation station.
- (2) Further provisions regarding the protocols and procedures for the imposition of administrative sanction as referred to in section (1) shall be regulated by the Government Regulation.

CHAPTER VII  
SERVICES

Part One  
General

Article 29

- (1) Government is obliged to provide meteorological, climatological, and geophysical services.
- (2) The meteorological, climatological, and geophysical services as referred to in section (1) are conducted and rendered in accordance with the determined standards.
- (3) The Meteorological, climatological, and geophysical services as referred to in section (1) consist of:
  - a. information; and
  - b. services.

Part Two  
Information Services

Article 30

Information services as referred to in Article 29 section (3) point a consist of:

- a. public information; and
- b. specific information.

Article 31

Public information as referred to in Article 30 point a consist of:

- a. routine information; and
- b. early warning.

Article 32

Routine information as referred to in Article 31 point a consist of:

- a. weather forecast;
- b. seasonal forecast;
- c. wave height forecast;
- d. forecast on the potency of forest fires or bush fires;

- e. information on air quality;
- f. information on tectonic earthquake;
- g. information on earth magnetism;
- h. information on time standards; and
- i. information on atmospheric electricity.

#### Article 33

Early warning as referred to in Article 31 point b may consist of:

- a. extreme weather;
- b. extreme climate;
- c. dangerous waves; and
- d. tsunami.

#### Article 34

- (1) Public broadcasting agency and mass media agency owned by the Government and local governments must provide and set time allocation or space columns every day to disseminate the public information in accordance with the provisions of the prevailing laws and regulations.
- (2) Broadcasting agency must provide and set time allocation to disseminate the early warning with respect to the meteorology, climatology, and geophysics in accordance with the provisions of the prevailing laws and regulations.

#### Article 35

- (1) Specific information as referred to in Article 30 point b may consist of:
  - a. aviation weather information;
  - b. marine weather information;
  - c. weather information for off-shore drillings;
  - d. climate information for agro industry;
  - e. climate information for energy diversification;
  - f. air quality information for industry;
  - g. information of seismicity maps for construction and planning; and
  - h. meteorological, climatological, and geophysical information for insurance claim purposes.

- (2) In addition to the specific information as referred to in section (1), other specific information needs may also be served upon request.

#### Article 36

- (1) The meteorological, climatological, and geophysical information services as referred to in Article 30 may only be performed by the Agency, unless otherwise provided by the prevailing law.
- (2) Further provisions regarding procedures of information services as referred to in section (1) shall be regulated by Government Regulation.

#### Article 37

In the event that any meteorological, climatological, and geophysical extreme occurrence is identified by personnel or officers of observation station, off-shore oil or mining platform, vessels, or aircrafts operating within the territory of Indonesia, then such occurrence is obligated to be immediately disseminated to other parties and reported to the Agency in accordance with the provisions of the prevailing laws and regulations.

### Part Three

#### Provision of Services

#### Article 38

The Provision of services as referred to in Article 29 section (3) point b at least consists of:

- a. consultation services; and
- b. calibration services.

#### Article 39

Consultation services as referred to in Article 38 point a are provided and rendered for the application of specific meteorological, climatological, and geophysical information.

#### Article 40

- (1) The provisions of calibration services as referred to in Article 38 point b are calibration services for meteorological, climatological, and geophysical observation devices.
- (2) Calibration services as referred to in section (1) are conducted in accordance with the determined calibration standards.

#### Article 41

The provision of services as referred to in Article 38 may be performed or rendered by the Agency, other government institution, or any Indonesian legal entities that meet the requirements.

#### Article 42

Further provisions regarding the requirements for the provision of consultation service and calibration service shall be regulated by Government Regulation.

### Part Four Service Fees

#### Article 43

- (1) Specific information services and service provision are charged at costs.
- (2) Service fees as referred to in section (1) received by the Agency or other government institutions constitute a non-tax state revenues.
- (3) Further provisions regarding types and tariffs of specific information services and service provision as referred to in section (1) and section (2) shall be regulated by the Government Regulation.

### CHAPTER VIII

#### OBLIGATION OF INFORMATION USERS

#### Article 44

- (1) Government, local governments, and other stakeholders are obligated to use meteorological, climatological, and

geophysical information in the determination of the policy on the relevant sectors.

- (2) Further provisions regarding the obligations to use information as referred to in section (1) shall be regulated by the Government Regulation.

## CHAPTER IX FACILITY AND INFRASTRUCTURE

### Part One

#### General

#### Article 45

Government is obligated to fulfill and provide the facility and infrastructure requirements in the meteorological, climatological, and geophysical implementation.

### Part Two

#### Facility

#### Article 46

Facilities for the meteorological, climatological, and geophysical implementation consist of:

- a. observation instruments;
- b. data management instruments; and
- c. service instruments.

#### Article 47

- (1) The instruments of the meteorological, climatological, and geophysical observation as referred to in Article 46 point a consist of:
  - a. meteorological instruments and climatological observation instruments; and
  - b. geophysical observation instruments.
- (2) The meteorological observation instruments and climatological observation instruments as referred to in section (1) point a may consist of:

- a. solar radiation metering devices;
  - b. air temperature metering devices;
  - c. soil temperature metering devices;
  - d. evaporation metering devices;
  - e. air pressure metering devices;
  - f. wind direction and speed metering devices;
  - g. humidity metering devices;
  - h. ceilometer;
  - i. rain metering devices;
  - j. air quality metering devices;
  - k. automatic weather station;
  - l. weather radar; and
  - m. weather satellite.
- (3) Geophysical observation instruments as referred to in section (1) point b may consist of:
- a. seismograph;
  - b. accelerograph;
  - c. lightning detector;
  - d. gravimeter;
  - e. magnetometer; and
  - f. time indicator device.

#### Article 48

- (1) Each observation instrument operated at observation station is required to be worthy of operation.
- (2) In order to ensure the worthy of operation or operability condition as referred to in section (1), observation instruments must be calibrated periodically and regularly.
- (3) Calibration as referred to in section (2) is performed by competent institution in accordance with the provisions of laws and regulations.
- (4) Any observer is not allowed to operate observation instruments that is not worthy of operation.
- (5) Further provisions regarding worthy-of-operation or operable instruments as referred to in section (1) shall be regulated by the Government Regulation.

Part Three  
Infrastructure

Article 49

The infrastructure of the meteorological, climatological, and geophysical implementation is in the form of:

- a. observation stations; and
- b. other supporting facilities.

Article 50

The observation station must at least fulfill the following requirements:

- a. observation instruments;
- b. methods of observation and reporting; and
- c. observation environment.

Article 51

The requirements for observation environment as referred to in Article 50 point c must be fulfilled in accordance with the typical characteristics of observation and consider the following:

- a. free open area from building and high tree obstructions;
- b. the effects of topography and geology;
- c. the unchangeable surrounding areas of the observation station for a relatively long period of time; and
- d. Potential disturbance of data transmission and communication.

Article 52

Every establishment of observation station must meet the administrative requirements in the form of:

- a. evidence of land ownership;
- b. feasibility study;
- c. building construction permit; and/or
- d. deed of establishment for Indonesian legal entities.

Article 53

Any observation station as referred to in Article 16 section (2) established by any institution other than Agency is required to be registered to the Agency.

#### Article 54

- (1) The Agency is obligated to establish observation station within the observation network system.
- (2) In establishing observation station as referred to in section (1), the Agency may cooperate with other government institutions, local governments, Indonesia legal entities or corporations, or other institutions in accordance with the provisions of laws and regulations.

#### Article 55

Any observation station incorporated within the observation network system is required to have communication facilities.

#### Article 56

- (1) The location of observation station incorporated within the observation network system shall be stipulated by Head of the Agency.
- (2) The stipulation of the location of observation station as referred to in section (1) must be performed in accordance with:
  - a. master plan;
  - b. observation station network system;
  - c. observation station coordinate points;
  - d. facility lay out; and
  - e. observation environmental areas.

#### Article 57

- (1) The procurement and provision of the location of observation station for meteorological, climatological, and geophysical activities as referred to in Article 56 section (2) become the responsibility of the local government.
- (2) The location of observation station as referred to in section (1) must meet the requirements for meteorological, climatological, and geophysical activities.

#### Article 58

Further provisions regarding feasibility study, procedures for observation station registration, and requirements for the

observation station locations within the network system shall be regulated by Head of the Agency Regulation.

#### Article 59

- (1) Any person who violates the provision as referred to in Article 52, Article 53, and Article 55 shall be subject to administrative sanction in form of
  - a. written warning;
  - b. suspension of observation station operation; or
  - b. closure of observation station.
- (2) Further provisions regarding the protocols and procedures for the imposition of administrative sanction as referred to in section (1) shall be regulated by the Government Regulation.

#### Part Four

##### Protection of Facility and Infrastructure

#### Article 60

- (1) Government is obligated to maintain the facilities and infrastructure for the implementation of meteorology, climatology, and geophysics in accordance with the technical and operating standards.
- (2) Technical and operating standards for maintenance as referred to in section (1) shall be regulated by the Government Regulation.

#### Article 61

The Agency, other government institutions, local governments, and Indonesia legal entities or corporations are responsible for the security of their respective facilities and infrastructure.

#### Article 62

Any person is prohibited from damaging, removing, or conducting activities that may disturb the functions of the facilities and infrastructures.

Article 63

Any person is prohibited from interfering telecommunication frequency that is used for the meteorological, climatological, and geophysical implementation.

Article 64

Government is obligated to protect the telecommunication frequency that is used for the implementation of meteorology, climatology, and geophysics.

CHAPTER X  
CLIMATE CHANGE

Article 65

- (1) Government is obligated to perform mitigation and adaptation of climate change.
- (2) In order to support the mitigation and adaptation as referred to in section (1), Government is obligated to perform:
  - a. formulation of national policy, strategy, program, and control activities on climate change;
  - b. coordination of the control activities on climate change; and
  - c. monitoring and evaluation on the application of the policy on climate change impacts.
- (3) For the formulation of policy as referred to in section (2) point a, the following activities are conducted:
  - a. data inventory on the green-house gas emission;
  - b. monitoring of climate change indicators and green-house gas indicators;
  - c. data collection; and
  - d. data analysis.
- (4) Coordination, monitoring, and evaluation of control activities for the climate change as referred to in section (2) point b and point c are performed by institution which is in charge of the field of mitigation and adaptation of climate change policy.

Article 66

Government institution is obligated to formulate and establish a policy on climate change mitigation and adaptation in accordance with its main duties and functions.

Article 67

Further provisions regarding the climate change shall be regulated by Presidential Regulation.

CHAPTER XI  
INTERNATIONAL COOPERATION

Article 68

- (1) In the meteorological, climatological, and geophysical implementation, government may conduct international cooperation.
- (2) International cooperation as referred to in section (1) consists of:
  - a. Fulfillment of the obligations under international agreement ;
  - b. early warning;
  - c. research;
  - d. transfer of technology; and
  - e. capacity building of human resources.
- (3) International cooperation as referred to in section (1) is represented by Agency.
- (4) Government institution other than Agency may perform international cooperation as referred to in section (2) in accordance with the provisions of laws and regulations.

CHAPTER XII  
RESEARCH, ENGINEERING, AND DEVELOPMENT

Part One  
General

Article 69

- (1) Meteorological, climatological and geophysical research, engineering, and development are performed in order to

develop science and technology as well as to build nation independence.

- (2) Meteorological, climatological and geophysical research, engineering, and development are performed in order to support the improvement of the meteorological, climatological and geophysical implementation.

#### Part Two

#### Meteorological, Climatological and Geophysical Research

#### Article 70

- (1) Meteorological, climatological and geophysical research is performed in order to:
  - a. identify and discover meteorology, climatology, and geophysics phenomena;
  - b. improve the analysis capacity on meteorology, climatology, and geophysics phenomena; and
  - c. invent new theories for the purpose of the meteorological, climatological and geophysical advancement of science and technology.
- (2) Meteorological, climatological and geophysical research may be conducted by the Agency, research and development institutions, universities, Indonesian legal entities or corporations, and/or Indonesian citizens.
- (3) Research and development institutions, universities, Indonesian legal entities or corporations, and/or Indonesian citizens as referred to in section (2) are obligated to report the sensitive results and extensive impacts of the research to the Agency.

#### Article 71

- (1) Research as referred to in Article 70 section (1) performed by foreign institutions, foreign universities, and/or foreign citizens is required to obtain permits in accordance with the provisions of laws and regulations.
- (2) Research as referred to in section (1) is required to involve the researchers actively from the relevant government institution.

- (3) Foreign institutions, foreign universities, and/or foreign citizens as referred to in section (1) are obligated to report the results of their research to the Minister administering in science and technology as well as to the Agency.

#### Article 72

- (1) The results of the research performed by researchers as referred to in Article 70 section (2) used for the meteorological, climatological and geophysical implementation are required to undergo operability tests by the Agency.
- (2) The results of the research performed by researchers as referred to in Article 70 section (2) that will be disseminated to the public are required to obtain a written approval from Head of the Agency.
- (3) Further provisions regarding operability tests as referred to in section (1) and procedures to obtain approvals as referred to in section (2) shall be regulated by the Government Regulation.

#### Article 73

- (1) Every person who violates the provision as referred to in Article 71 section (2) and section (3) as well as Article 72 section (1) and section (2) shall be subject to administrative sanction in form of:
  - a. written warning;
  - b. suspension of permit;
  - c. termination of research or suspension of research results; or
  - d. revocation of permit.
- (2) Further provisions regarding the protocols and procedures for the imposition of administrative sanction as referred to in section (1) shall be regulated by the Government Regulation.

Part Three  
Engineering

Article 74

- (1) Meteorological, climatological and geophysical engineering is performed by applying science and technology in order to:
  - a. modify meteorological, climatological and geophysical elements; and
  - b. develop meteorological, climatological and geophysical facilities.
- (2) The meteorological, climatological and geophysical engineering result equipments are required to meet the equipment standards determined in accordance with the provisions of laws and regulations.

Article 75

- (1) The meteorological, climatological and geophysical engineering as referred to in Article 74 may be performed by the Agency, research and development institutions, universities, Indonesian legal entities, and/or Indonesian citizens.
- (2) Meteorological, climatological and geophysical engineering as referred to in section (1) may be performed through or under international cooperation after obtaining recommendation from the Agency in accordance with the provisions of laws and regulations.

Article 76

- (1) Any person who violates the provision as referred to in Article 74 section (2) and Article 75 section (2) shall be subject to administrative sanction in form of:
  - a. written warning;
  - b. suspension of permit;
  - c. termination of research or suspension of research results; or
  - d. revocation of permit.

- (2) Further provisions regarding the protocols and procedures for the imposition of administrative sanction as referred to in section (1) shall be regulated by the Government Regulation.

#### Part Four

#### Industrial Development

##### Article 77

- (1) Industrial development of meteorology, climatology, and geophysics equipment is conducted in order to improve the capacity of the nation in producing meteorological, climatological and geophysical facilities.
- (2) Industrial development of meteorology, climatology, and geophysics equipment as referred to in section (1) is required to meet the equipment standards determined in accordance with the provisions of laws and regulations.

##### Article 78

Industrial development of meteorology, climatology, and geophysics comprising innovation and transfer of technology must optimally utilize the national resources.

##### Article 79

Further provisions regarding industrial development of meteorology, climatology, and geophysics shall be regulated by the Government Regulation.

### CHAPTER XIII

### HUMAN RESOURCES

##### Article 80

- (1) Human resource development in the fields of meteorology, climatology, and geophysics is intended to realize the human resources or personnel who are knowledgeable skillful, creative, innovative, professional, disciplined, responsible, possessing the integrity, and dedicated, as well as meet the national and international standards.

- (2) Human resource development as referred to in section (1) is performed in order to ensure the successful meteorological, climatological and geophysical implementation
- (3) Human resource development as referred to in section (1) may be performed by the Government, local governments, and Indonesian legal entities or corporations.

#### Article 81

In order to accomplish the objectives as referred to in Article 80 section (1), Government determines:

- a. development policy;
- b. planning; and
- c. education and training.

#### Article 82

Policy on human resource development as referred to in Article 81 point a is formulated by the Agency.

#### Article 83

Planning on human resources as referred to in Article 81 point b is formulated on the basis of:

- a. need projection;
- b. fields of expertise;
- c. education levels; and
- d. placement.

#### Article 84

- (1) Education and training in the fields of meteorology, climatology, and geophysics as referred to in Article 81 point c are performed on the basis of:
  - a. need of quality and quantity of the educators;
  - b. standard of curriculums and syllabuses as well as education and training methods;
  - c. corporate good governance standards of the education and training institutions; and
  - d. the levels of the technological development of teaching and learning facilities and infrastructures.

- (2) Education and training as referred to in section (1) are performed in accordance with the provisions of national and international standards.

#### Article 85

The Agency is obligated to provide and implement education and training in meteorology, climatology, and geophysics.

#### Article 86

Human resources who perform specific jobs in meteorology, climatology, and geophysics are obligated to hold certificate of competency in accordance with the determined requirements.

#### Article 87

Further provisions regarding human resource development in the fields of meteorology, climatology, and geophysics shall be regulated by the Government Regulation.

### CHAPTER XIV

#### RIGHTS AND PUBLIC PARTICIPATION

#### Article 88

The people are entitled to obtain and receive public information in relation to the meteorological, climatological and geophysical implementation in accordance with the provisions of laws and regulations.

#### Article 89

- (1) The people have equal opportunity in order to participate in improving the meteorological, climatological and geophysical implementation.
- (2) Participation by the people as referred to in section (1) may be in the form of:
  - a. assistance in disseminating meteorological, climatological, and geophysical information originating from the Agency;
  - b. assistance in maintaining the facilities and infrastructures;

- c. assistance of the mitigation and adaptation of climate change;
- d. suggestions and opinions to the Government; and/or
- e. report if knowing that there is any inconsistency or discrepancy and/or faults on the procedures for the implementation of and any non-function of facilities and infrastructures.

#### Article 90

Further provisions regarding public participation shall be regulated by the Government Regulation.

### CHAPTER XV CRIMINAL PROVISIONS

#### Article 91

Any owner of observation station incorporated in observation network system that ceases or discontinues the observation without the Agency's approval or permit as referred to in Article 17 section (3) shall be punished by a maximum of Rp.150,000,000.00 (one hundred and fifty million rupiah).

#### Article 92

Any owner of observation station incorporated in observation network system that relocates his or her station without the Agency's approval or permit as referred to in Article 20 section (1) shall be punished by a maximum of Rp.150,000,000.00 (one hundred and fifty million rupiah).

#### Article 93

Any personnel or officer who deliberately fails to immediately disseminate or disclose information in relation to the meteorological, climatological and geophysical extreme occurrence as referred to in Article 37 shall be punished by a maximum imprisonment of 2 (two) years or by a maximum pecuniary sanction of Rp 500,000,000.00 (five hundred million rupiah).

#### Article 94

- (1) Any person who operates observation equipment which is not worthy of operation or non-operable at observation station as referred to in Article 48 section (4) shall be punished by a maximum of Rp 500,000,000.00 (five hundred million rupiah).
- (2) In the event that the act as referred to in section (1) inflicts serious injury to any person or damage to any property or goods, the perpetrator shall be punished by a maximum imprisonment of 5 (five) years or by a maximum of Rp 1,000,000,000.00 (one billion rupiah).
- (2) In the event that the act as referred to in section(1) causes the death of a person, the perpetrator shall be punished by a maximum imprisonment of 10 (ten) years or by a maximum of Rp 2,000,000,000.00 (two billion rupiah).

#### Article 95

Any person who damages, vandalizes, removes, relocates or commits any acts that may disturb the functions of the facility and infrastructure as referred to in Article 62 shall be punished by a maximum imprisonment of 2 (two) years or by a maximum of Rp 500,000,000.00 (five hundred million rupiah).

#### Article 96

Any person who deliberately disturbs or interferes the telecommunication frequency as referred to in Article 63 shall be punished by a maximum imprisonment of 5 (five) years or by a maximum of Rp 1,000,000,000.00 (one billion rupiah).

#### Article 97

Any person who fails to report the research results the research results that are sensitive and have extensive impacts as referred to in Article 70 section (3) shall be punished by a maximum imprisonment of 5 (five) years or by a maximum of Rp 1,000,000,000.00 (one billion rupiah).

#### Article 98

Any person who fails to report his or her research results as referred to in Article 71 section (3) shall be punished by a

maximum imprisonment of 2 (two) years or by a maximum of Rp 500,000,000.00 (five hundred million rupiah).

Article 99

Any person who develops industrial facility but fails to comply with the standards as referred to in Article 77 section (2) shall be punished by a maximum imprisonment of 2 (two) years or by a maximum of Rp 500,000,000.00 (five hundred million rupiah).

Article 100

Any person who performs specific job or occupation in meteorology, climatology, and geophysics but fails to hold a Certificate of Competency in accordance with requirements stipulated as referred to in Article 86 shall be punished by a maximum imprisonment of 5 (five) years or by a maximum of Rp 1,000,000,000.00 (one billion rupiah).

Article 101

In the event that the meteorological, climatological and geophysical criminal act is committed by a corporation, in addition to the imprisonment and pecuniary sanction imposed to its management, punishment may also be sanctioned to the corporation in the form of multiple sanction with an aggravation of 3 (three) times of the sanction as contemplated under this Chapter.

CHAPTER XVI

TRANSITIONAL PROVISIONS

Article 102

At the time when this Law comes into force, the meteorological, climatological and geophysical organizer is still able to continue performing their activities not later than 2 (two) years, the Agency is obligated to adjust in accordance with this Law.

CHAPTER XVII  
CLOSING PROVISIONS

Article 103

Government Regulations and other implementation regulations for this Law shall be issued not later than 1 (one) year from the effectuation date of this Law.

Article 104

At the time when this Law comes into force, any and all the prevailing legislation governing or concerning meteorology, climatology, and geophysics shall be declared to remain in effect insofar as nothing therein is in contravention of or has not been replaced by new legislation in accordance with the provisions of this Law.

Article 105

This Law comes into force on the date of its promulgation.

In order that every person may know hereof, it is ordered to promulgate this Law by its placement in the State Gazette of the Republic of Indonesia.

Enacted in Jakarta  
on 1 October 2009

PRESIDENT OF  
THE REPUBLIC OF INDONESIA,

Signed

DR. H. SUSILO BAMBANG YUDHOYONO

Promulgated in Jakarta  
on 1 October 2009

MINISTER OF LAW AND HUMAN RIGHTS OF  
THE REPUBLIC OF INDONESIA,

Signed

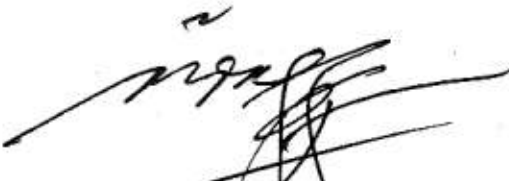
ANDI MATTALATTA

STATE GAZETTE OF THE REPUBLIC OF INDONESIA OF 2009 NUMBER 139

Jakarta, September 2016

Has been translated as an Official Translation  
on behalf of Minister of Law and Human Rights  
of the Republic of Indonesia

DIRECTOR GENERAL OF LEGISLATION,



WIDODO EKATJAHJANA

ELUCIDATION  
OF  
LAW OF THE REPUBLIC OF INDONESIA  
NUMBER 31 OF 2009  
ON  
METEOROLOGY, CLIMATOLOGY, AND GEOPHYSICS

I. GENERAL

By the blessings of Almighty God, the Unitary State of the Republic of Indonesia is bestowed as an archipelagic state which is located between two continents and two oceans as well as lied at the junction of three tectonic plates along an equatorial region which makes Indonesia very strategic with the richness and uniqueness of its meteorological, climatological, and geophysical conditions. Indonesia is so sensitive to the changes of meteorological, climatological, and geophysical factors that do not recognize state boundaries, either local, regional, or global. Such condition gives competitive advantage for science and technology development at international level as well as it is potentially vulnerable to disaster and draws special attention for the development and the meteorological, climatological, and geophysical implementation.

Meteorology, climatology, and geophysics, as natural resources and richness, consist of the conditions of the atmosphere and earth together with all phenomena therein, that occur naturally. As a result, man and the life on earth are affected by these conditions and phenomena. Therefore, prudence and sensibility to the meteorology, climatology, and geophysics will deem the atmosphere and earth as something that needs to be utilized, minimized its risks, and maintained its preservation so that they will give the benefits to the prosperity of human kind.

The meteorological, climatological, and geophysical implementation in order to generate data and information has strategic roles that can be utilized such that it will increase the added values of various activities in the relevant sector. In addition, it can be utilized to enhance the safety of life and assets as well as in order to reduce disaster risks.

The meteorological, climatological, and geophysical implementation is performed on the basis of several important aspects which can be adjusted with strategic environment and basic capital in the territory of Indonesia, namely geographical aspect, topographical aspect and archipelagic aspect, demographic aspect, ecological aspect, scientific and technological aspect, as well as global aspect with due observance of regional autonomy and accountability of the state administration.

This Law is established as a legal basis so that the meteorological, climatological, and geophysical implementation can support the safety and security of life and assets; protect the national interests and potency for the purpose of improvement of the national security and defense; increase the nation independence in mastering and applying science and technology in the fields of meteorology, climatology, and geophysics; support the national policy on the development for the purpose of realizing people's prosperity.

This Law on Meteorology, Climatology, and Geophysics contains the principles and objectives, fostering, implementation, observation, data management, services, obligations of information users, facilities and infrastructure, climate change, international cooperation, research, development, engineering, human resources, rights and public participation, as well as criminal provisions.

In general, this Law regulates:

- a. the fostering of meteorology, climatology, and geophysics intended to improve the quality of professional human resources and construct comprehensive, integrated, efficient, and effective implementation;
- b. Government obligations in the meteorological, climatological, and geophysical implementation which are performed and coordinated by the Agency on the basis of stipulated master plan;
- c. meteorological, climatological, and geophysical observation conducted on the basis of the standard methods in the determined observation network system;

- d. data management performed by the Agency in order to generate fast, correct, accurate, extensive, and understandable information based on the applicable standards;
- e. Government obligations to supply and provide information services and early warning, as well as broadcasting agency obligation and mass media obligation of the Government and local governments in order to spread them for the purpose of its dissemination;
- f. Government, local governments, and other stakeholders obligations in order to utilize the information on meteorology, climatology, and geophysics;
- g. required observation equipment which is worthy of operation and calibrated periodically and regularly;
- h. Government obligations to perform mitigation and adaptation on the global warming impacts and climate change impacts through coordination control, monitoring, and evaluation policy implementation activities;
- i. international cooperation and appointment of the Agency as permanent representative for the Indonesian Government in the World Meteorological Organization (WMO);
- j. obligation to report sensitive research results and involve the researchers of the relevant government institutions;
- k. the rights of the people to obtain information and their participation in assisting the information dissemination, assisting the mitigation and adaptation of climate change, as well as protecting and safeguarding the facilities and infrastructure.

This Law only regulates principal subject matters, as for technical and operational matters shall be regulated by government regulations and other implementation regulations.

## II. ARTICLE BY ARTICLE

### Article 1

Sufficiently clear.

### Article 2

#### Point a

The term "national principle" means the meteorological, climatological, and geophysical implementation must reflect the

nature and characteristics of the people of Indonesia that are pluralistic by always maintaining and safeguarding the principles of the Unitary State of the Republic of Indonesia.

Point b

The term "honesty principle" means the meteorological, climatological, and geophysical implementation must be based on objectivity and neutrality.

Point c

The term "scientific principle" means the meteorological, climatological, and geophysical implementation must be performed on the basis of scientific principles.

Point d

The term "public interest principle" means the meteorological, climatological, and geophysical implementation must prioritize the public interest in general.

Point e

The term "benefit principle" means the meteorological, climatological, and geophysical implementation may give the benefits to humanity, improvement of people prosperity, development for all the citizens, as well as can enhance the national security and defense.

Point f

The term "balance, harmony, and synchronization principles" means the meteorological, climatological, and geophysical implementation must be performed such that there is a balance, harmony, and synchronization between the facilities and infrastructures, between the implementer and the users of meteorological, climatological, and geophysical services, between individual interests and public interests, as well as between national and international interests.

Point g

The term "integrity principle" means the meteorological, climatological, and geophysical implementation constitutes an integral part, and as a whole, supporting one another, as well as covering one another among the organizers and service users, in terms of national, regional, and international scopes.

Point h

The term "sustainability principle" means the meteorological, climatological, and geophysical implementation is performed in well-planned manner and continuously.

Point i

The term "accurate and prudence principle" means the meteorological, climatological, and geophysical implementation is performed precisely and accurately as well as determined in accordance with the applicable standards and procedures.

Article 3

Sufficiently clear.

Article 4

Section (1)

The term "the development of the implementation" means the activities directed toward the improved success of the meteorological, climatological, and geophysical implementation which success indicators can be seen from the accuracy of the information that is generated and the capability of the users or the people in utilizing such information.

Section (2)

Sufficiently clear.

Section (3)

Sufficiently clear.

Section (4)

Sufficiently clear.

Section (5)

Sufficiently clear.

Section (6)

Point a

The term "improving the quality" means that the observation results, management and services are understandable, reliable and dependable, as well as assured for its accuracy.

Point b

Sufficiently clear.

Point c

Sufficiently clear.

Point d

Sufficiently clear.

Point e

Sufficiently clear.

Point f

Sufficiently clear.

Point g

Sufficiently clear.

Article 5

Sufficiently clear.

Article 6

Sufficiently clear.

Article 7

Section (1)

Sufficiently clear.

Section (2)

Sufficiently clear.

Section (3)

Point a

Sufficiently clear.

Point b

Sufficiently clear.

Point c

Sufficiently clear.

Point d

The term "road-map" includes among others:

1. achievement or progress phases related to the need of resources, facilities and infrastructures; and
2. demand regarding technology level as supporting facilities.

Section (4)

Sufficiently clear.

Section (5)

The term "in accordance with the need" means the review of implementation master plan is based on extraordinary events or occurrences that affect the meteorological, climatological, and geophysical implementation.

Article 8

Sufficiently clear.

Article 9

Sufficiently clear.

Article 10

Section (1)

Point a

Sufficiently clear.

Point b

The term "air quality" means ambient air quality, namely the level of air pollution elements and/or greenhouse gas existing in the atmosphere.

Section (2)

Sufficiently clear.

Section (3)

Sufficiently clear.

Section (4)

Sufficiently clear.

Article 11

Sufficiently clear.

Article 12

Sufficiently clear.

Article 13

Section (1)

The term "any vessel with certain tonnage or size" means any vessel that has the size equal to or larger than 500 (five hundred) gross tonnage.

Section (2)

Sufficiently clear.

Section (3)

Sufficiently clear.

Section (4)

Sufficiently clear.

Article 14

Sufficiently clear.

Article 15

Sufficiently clear.

Article 16

Sufficiently clear.

Article 17

Section (1)

Sufficiently clear.

Section (2)

Sufficiently clear.

Section (3)

The term "temporary suspension of observation" means suspension for 3 (three) consecutive days or 5 (five) non-consecutive days within 1 (one) month.

The term "permanent cessation of observation" means non-operation or closure of the observation station.

Article 18

Sufficiently clear.

Article 19

Section (1)

Prohibition to publish data of observation results is intended to ensure the accuracy and certainty of the information the people.

The term "data of observation results" means any data acquired from the observation station of any institution other than the Agency.

Section (2)

Sufficiently clear.

Section (3)

Sufficiently clear.

Article 20

Sufficiently clear.

Article 21

Sufficiently clear.

Article 22

Section (1)

Sufficiently clear.

Section (2)

Point a

Sufficiently clear.

Point b

The term "reading and estimation" means any part of the observation processes, either manual or automatics, to interpret the data of observation results in form of numbers, letters, pictures, and/or images.

Point c

Sufficiently clear.

Point d

Sufficiently clear.

Point e

The term "data encoding" means the methods of making codes.

Section (3)

Sufficiently clear.

Section (4)

Sufficiently clear.

Section (5)

Sufficiently clear.

Article 23

Sufficiently clear.

Article 24

Sufficiently clear.

Article 25

Point a

The term "collection" means any activity to collect data of observation results from observation station to the Agency.

Point b

The term "processing" means a series of processes on the data of observation results which consist of quality control, classification, data tabulation, and data calculation.

Point c

The term "analysis" means the activities to identify the behaviors of meteorological, climatological, and geophysical symptoms or indicators from the processing.

Point d

The term "storage" means the processes of data and information filing in various media, including making of backup system.

Point e

The term "access" means activities to acquire data and/or information.

Article 26

Section (1)

Sufficiently clear.

Section (2)

Sufficiently clear.

Section (3)

The term "own interest" means any individual/agency/institution in order to support his or her or its own activities and not used for the interest of and/or published to other parties.

Article 27

Sufficiently clear.

Article 28

Sufficiently clear.

Article 29

Sufficiently clear.

Article 30

Point a

The term "public information" means any information on meteorology, climatology, and geophysics that is issued by the Agency for public people in general, whether requested or not and it is free of charge.

Point b

The term "specific information" means any information on meteorology, climatology, and geophysics issued upon a request and shall be subject to certain costs or rates in accordance with the provisions of laws and regulations.

Article 31

Sufficiently clear.

Article 32

Sufficiently clear.

Article 33

Sufficiently clear.

Article 34

Sufficiently clear.

Article 35

Sufficiently clear.

Article 36

Sufficiently clear.

Article 37

The term "meteorological, climatological, and geophysical extreme occurrence" means any event or occurrence that may inflict damages, particularly the safety and security of life and assets.

The term "other party" means any person, any government institution or agency other than the Agency and/or local governments.

Article 38

Point a

The term "consultation service" means service provision for the professional skills and expertise in the fields of meteorology, climatology, and geophysics.

Point b

Sufficiently clear.

Article 39

The term "application of specific information" means the utilization of information on meteorology, climatology, and geophysics for activities in specific fields, including among others the application of climate information for tobacco plants.

Article 40

Sufficiently clear.

Article 41

Sufficiently clear.

Article 42

Sufficiently clear.

Article 43

Sufficiently clear.

Article 44

Section (1)

The term "relevant sector" includes, among others:

- a. transportation;
- b. agriculture and forestry;
- c. tourism;
- c. security and defense;
- d. construction;
- e. site plan;
- f. health;
- g. water resources;
- h. energy and mining;

- i. industry;
- j. marine and fishery; and
- k. disaster mitigation and recovery.

Section (2)

Sufficiently clear.

Article 45

Sufficiently clear.

Article 46

Sufficiently clear.

Article 47

Sufficiently clear.

Article 48

Section (1)

The term "worthy of operation" means the conditions of the equipment in accordance with the applicable technical specifications in order to ensure the sustained functions and accuracy of the observation, including the provision of back-up or spare observation equipment.

Section (2)

Sufficiently clear.

Section (3)

Sufficiently clear.

Article (4)

Sufficiently clear.

Article (5)

Sufficiently clear.

Article 49

Point a

Sufficiently clear.

Point b

The term "other supporting facilities" includes among others:

- a. communication means;
- b. access to observation station;
- c. operational buildings;
- c. equipment sites;
- d. towers; and
- e. siren.

Article 50

Sufficiently clear.

Article 51

Point a

The term "open free area" means any area within the vicinity of observation station that is not obstructed by buildings, or trees in accordance with the observation equipment specifications.

Point b

Sufficiently clear.

Point c

Sufficiently clear.

Point d

The term "potential disturbance of data transmission and communication" means the tendency of disturbance or interference to the sending and transmission process of data observation results that use the radio and audio frequency.

Article 52

Sufficiently clear.

Article 53

Sufficiently clear.

Article 54

Sufficiently clear.

Article 55

Sufficiently clear.

Article 56

Sufficiently clear.

Article 57

Sufficiently clear.

Article 58

Sufficiently clear.

Article 59

Sufficiently clear.

Article 60

Sufficiently clear.

Article 61

Sufficiently clear.

Article 62

The term "activities that may disturb the functions" means, among others, renovation, construction, and/or planting of high trees.

Article 63

The term "interfering telecommunication frequency" means the use of frequency that causes the disturbance in data and information transmission.

Article 64

Sufficiently clear.

Article 65

Section (1)

Sufficiently clear.

Section (2)

Sufficiently clear.

Section (3)

Point a

Data inventory of greenhouse gas emission includes survey, census, tabulation, analysis, and tendency of the greenhouse gas emission change.

Point b

Sufficiently clear.

Point c

Sufficiently clear.

Point d

Sufficiently clear.

Section (4)

Sufficiently clear.

Article 66

Sufficiently clear.

Article 67

Sufficiently clear.

Article 68

Sufficiently clear.

Article 69

Sufficiently clear.

Article 70

Section (1)

Sufficiently clear.

Section (2)

Sufficiently clear.

Section (3)

The term "research results" means complete report which consists of raw data, analysis results, and research final results.

The term "sensitive and extensive research results" means research results that may create people anxiety and/or give impact to the national security and defense.

Article 71

Sufficiently clear.

Article 72

Section (1)

The term "operability test" means the validation of research results.

Section (2)

Sufficiently clear.

Section (3)

Sufficiently clear.

Article 73

Sufficiently clear.

Article 74

Sufficiently clear.

Article 75

Sufficiently clear.

Article 76

Sufficiently clear.

Article 77

Sufficiently clear.

Article 78

Sufficiently clear.

Article 79

Sufficiently clear.

Article 80

Sufficiently clear.

Article 81

Sufficiently clear.

Article 82

Sufficiently clear.

Article 83

Sufficiently clear.

Article 84

Sufficiently clear.

Article 85

Sufficiently clear.

Article 86

The term "specific jobs" means any job that is directly related to observation, data collection, data processing and analysis, as well as services.

Article 87

Sufficiently clear.

Article 88

Sufficiently clear.

Article 89

Sufficiently clear.

Article 90

Sufficiently clear.

Article 91

Sufficiently clear.

Article 92

Sufficiently clear.

Article 93

Sufficiently clear.

Article 94

Sufficiently clear.

Article 95

Sufficiently clear.

Article 96

Sufficiently clear.

Article 97

Sufficiently clear.

Article 98

Sufficiently clear.

Article 99

Sufficiently clear.

Article 100

Sufficiently clear.

Article 101

Sufficiently clear.

Article 102

Sufficiently clear.

Article 103

Sufficiently clear.

Article 104

Sufficiently clear.

Article 105

Sufficiently clear.