

MINISTER OF ENERGY AND MINERAL RESOURCES
REPUBLIC OF INDONESIA
REGULATION OF THE MINISTER OF ENERGY AND MINERAL RESOURCES
REPUBLIC OF INDONESIA
NUMBER 2 OF 2023
ABOUT
MANAGEMENT OF CARBON CAPTURE AND STORAGE, AS WELL AS
CARBON CAPTURE, USE, AND STORAGE
IN UPSTREAM OIL AND NATURAL GAS BUSINESS ACTIVITIES
BY THE GRACE OF GOD ALMIGHTY
MINISTER OF ENERGY AND MINERAL RESOURCES OF THE REPUBLIC OF
INDONESIA,

Considering:

- a. that Indonesia has geological formations that can be used to store carbon emissions permanently through the use of technology in carbon capture and storage activities and carbon capture, utilization and storage activities, so as to support efforts to achieve targets national commitment to tackling climate change globally in order to achieve the goals of the Paris Agreement on the United Nations Employment Convention on Climate Change (Paris Agreement to the United Nations Framework Convention on Climate Change) towards a low-GHG emission development direction glass and climate resilience by 2050;
- b. that in addition to achieving the goal as referred to in paragraph a, implementation of carbon capture, use and storage activities, aims to encourage increased production oil and gas; Unofficial translation.
- c. that in carrying out capture activities and carbon storage and capture activities, utilization, and storage of carbon in activities upstream oil and gas business requires legislation as a legal basis;
- d. that based on the considerations as referred to in points a, b, and c, it is necessary to stipulate a Regulation of the Minister of Energy and Resources Minerals concerning Organizing of Capture and Carbon Storage, and Capture, Utilization, and Carbon Storage in Upstream Oil and Gas Business Activities;

In view of:

1. Article 17 paragraph (3) of the Constitution of the Republic of Indonesia Indonesia in 1945;
2. Law Number 22 of 2001 concerning Oil and Natural Gas (State Gazette of the Republic of Indonesia Year 2001 Number 136, Supplement to the State Gazette Republic of Indonesia Number 4152);
3. Law Number 30 of 2007 concerning Energy (State Gazette of the Republic of Indonesia Year 2007 Number 96, Supplement to the State Gazette of the Republic Indonesia Number 4746);

4. Law Number 39 of 2008 concerning Ministry of State (State Gazette of the Republic Indonesia of 2008 Number 166, Supplementary Sheet Republic of Indonesia Number 4916);
5. Law Number 16 of 2016 concerning Ratification of the Paris Agreement to the United Nations Framework Convention on Climate Change (Agreement Paris to the United Nations Framework Convention Nations on Climate Change) (State Gazette Republic of Indonesia of 2016 Number 204, Supplement State Gazette of the Republic of Indonesia Number 5939);
6. Government Regulation Number 35 of 2004 concerning Upstream Oil and Gas Business Activities (Gazette Republic of Indonesia of 2004 Number 123, Supplement to the State Gazette of the Republic of Indonesia Number 4435) as last amended several times with Government Regulation Number 55 of 2009 regarding the Second Amendment to Government Regulations Number 35 of 2004 concerning Upstream Business Activities Oil and Gas (State Gazette of the Republic Indonesia of 2009 Number 128, Supplementary Sheet Republic of Indonesia Number 5047);
7. Government Regulation Number 79 of 2010 concerning Recoverable Operating Expenses and Treatment Income Tax in Upstream Oil and Gas Business Sector Earth (State Gazette of the Republic of Indonesia Year 2010 Number 139, Supplement to the State Gazette of the Republic Indonesia Number 5173) as amended with Government Regulation Number 27 of 2017 regarding Amendments to Government Regulation Number 79 2010 concerning Obtainable Operating Costs Refunded and Income Tax Treatment in Oil and Gas Upstream Business Sector (Gazette Republic of Indonesia of 2017 Number 118, Supplement to the State Gazette of the Republic of Indonesia Number 6066);
8. Government Regulation Number 79 of 2014 concerning National Energy Policy (State Gazette of the Republic Indonesia of 2014 Number 300, Additional Sheets Republic of Indonesia Number 5609);
9. Government Regulation Number 23 of 2015 concerning Joint Management of Oil and Natural Resources Natural Gas in Aceh (State Gazette of the Republic of Indonesia Year 2015 Number 99, Supplement to the State Gazette Republic of Indonesia Number 5696);
10. Government Regulation Number 53 of 2017 concerning Tax Treatment of Upstream Oil Business Activities and Natural Gas with a Gross Split Production Sharing Contract (State Gazette of the Republic of Indonesia Year 2017 Number 304, Supplement to the State Gazette of the Republic Indonesia Number 6172);
11. Presidential Regulation Number 97 of 2021 concerning Ministry of Energy and Mineral Resources (Gazette Republic of Indonesia Year 2021 Number 244);
12. Presidential Regulation Number 98 of 2021 concerning Implementation of Carbon Economic Value for Achievement of Contribution Targets Determined By Contribution National and Ruraah Glass Emission Control in National Development (State Gazette Republic of Indonesia Year 2021 Number 249);
13. Regulation of the Minister of Energy and Mineral Resources Number 15 of 2021 concerning Organization and Work Procedures Ministry of Energy and Mineral Resources (Berita Republic of Indonesia Year 2021 Number 733):

DECIDE:

To stipulate: REGULATION OF THE MINISTER OF ENERGY AND RESOURCES MINERAL REGARDING THE IMPLEMENTATION OF ARCHIVES AND CARBON STORAGE, AND CAPTURE, UTILIZATION, AND STORAGE OF CARBON IN UPSTREAM OIL AND NATURAL GAS BUSINESS ACTIVITIES.

CHAPTER I

GENERAL REQUIREMENTS

Article 1

In this Ministerial Regulation what is meant by:

1. Petroleum is the result of a natural process in the form of hydrocarbons under atmospheric pressure and temperature conditions in the liquid or solid phase, including bitumen, mineral wax or ozokerite, and the bitumen thus obtained from the mining process, but not included coal or other form of hydrocarbon deposits solid income obtained from unrelated activities with oil and gas business activities.
2. Natural gas is the product of natural processes in the form of hydrocarbons under atmospheric pressure and temperature conditions in the gas phase obtained from the mining process for oil and gas.
3. Oil and Natural Gas are Crude Oil and Natural Gas.
4. Carbon Economic Value, hereinafter abbreviated as NEK is the value for each unit of greenhouse gas emission resulting from human activities and activities economy.
5. Greenhouse Gases, hereinafter abbreviated as GHG, are gases contained in the atmosphere, both natural and anthropogenic, which absorb and re-emit infrared radiation.
6. GHG emission is the release of GHG into the atmosphere at some point in a certain area at a certain period of time.
7. Carbon Emissions are GHG Emissions in the form of carbon dioxide and other GHGs that can be converted as carbon equivalent dioxide.
8. Baseline Business is the normal GHG Emissions in Upstream Oil and Gas Activities Business called Baseline GHG Emissions and is an estimate of the level of GHG emissions and projections that have been identified during predetermined period of time without application of mitigation policies and/or technologies.
9. Injection Target Zone is a deep rock unit geological formation capable of accommodating injected Carbon Emissions safely and permanently.
10. Carbon Capture and Storage hereinafter abbreviated as COS are activities to reduce GHG Emissions that include capture of Carbon Emissions and/or transport of the captured Carbon Emissions and safe and permanent storage within the Injection Target Zone, according to good technical rules.
11. Carbon Capture, Utilization and Storage is abbreviated as CCUS is an activity to reduce GHG Emissions which includes the capture of Carbon Emissions and/or transport and utilisation of Captured Carbon Emissions, and deposition within the Injection Target Zone safely and permanently according to good technical rules.
12. Coalbed Methane gas which hereinafter is abbreviated GMB is Natural Gas (hydrocarbons) of which methane gas is the primary component produced naturally during

the process of coal formation (coalification) and trapped and absorbed (absorbed) inside coal and/or coal seams.

13. Salty Aquifer is a geological formation or part of a formation that contains a source of brine.
14. Leakage is the displacement of Carbon Emissions from the injection target zone below ground level (sub surface) to the atmosphere.
15. Well integrity is the ability to prevent leaks in casings, nozzles, seals, wellheads and/or Christmas tree for injection wells, production wells, or control wells.
16. Measurement, Reporting and Verification, abbreviated as MRV, is an activity to ensure data and/or information on mitigation actions and adaptation actions are carried out in accordance with procedures and/or standards which have been determined and guaranteed to be correct.
17. Upstream Business Activities are business activities based on exploration and exploitation.
18. Exploration is an activity aimed at obtaining information on geological conditions to find and obtain estimates of Oil and Gas reserves in the specified work area.
19. Exploitation is a series of activities with a purpose to produce Oil and Natural Gas from the specified work region, which consists of drilling and completion of wells, construction of facilities, transport, storage and processing for separation and refining of Oil and Gas in the field, and other activities that support this.
20. Work Area is a certain area within Indonesian territory governed by the Indonesian mining law for implementation of Exploration and Exploitation.
21. Cooperation Contract is a production sharing contract or other forms of cooperation contracts in Exploration and Exploitation activities to derive the most profit for the State and resulting in the greatest prosperity for the people.
22. Depleted Oil and Gas Reservoir which hereinafter referred to as Depleted Reservoir is an Oil and Gas reservoir which has experienced a decline in reservoir pressure or hydrocarbon reserves and Oil and Gas production cannot be carried out economically with technology that exists today.
23. Monitoring is a routine process of collecting data and progress towards program goals by monitoring changes that focus on process and results directly at the location as stated in the Cooperation Contract.
24. Central Government is the President of the Republic of Indonesia who hold the power of government of the Republic of Indonesia assisted by the Vice President and Minister as referred to in the 1945 Law on the Constitution of the Republic of Indonesia.
25. Minister is the minister administering governance over affairs in the oil and gas sector.
26. Special Task Force for Upstream Business Activities Oil and Gas, hereinafter referred to as SKK Migas is the executor of Upstream Business Activities management in the Oil and Gas sector, under the guidance, coordination and supervision of the Minister.
27. Aceh Oil and Gas Management Agency, hereinafter abbreviated BPMA, is a government agency that was formed to manage and control Upstream Business Activities in the onshore and offshore Oil and Gas sector in territory under the authority of Aceh (0 to 12 nautical miles).
28. Third Party is a party producing carbon emissions outside the Working Area.

29. Director General is the director general who has the task of organizing the formulation and implementation of policies in the field of development, control and supervision of Oil and Gas activities.
30. The next Head of Oil and Gas Inspection, referred to as Head of Inspection, is an official that assumes the position of managing director for the task of carrying out the formulation and implementation of policies, preparation of norms, standards, procedures, and provision of technical guidance and evaluation in the standardization, engineering, and safety fields of Oil and Gas business activities.
31. The next Oil and Gas Inspector, called Oil and Gas Inspector, is a civil servant who is assigned duties, responsibilities, authorities, and rights to carry out technical inspections and/or safety checks, control of use and development of domestic potential, supervision of implementation of operational activities, and assessment of implementation of safety management systems in Oil and Gas business activities.
32. Contractor is a business entity or permanent establishment assigned to carry out Exploration and Exploitation in a Work Area based on Cooperation Contract with SKK Migas or BPMA.

Article 2

The scope of this Ministerial Regulation includes regulation about:

- a. Implementation of CCS; And
- b. Implementation of CCUS.

CHAPTER II

ADMINISTRATION IN CCS AND CCUS

Unofficial translation.
Part One
General

Article 3

Implementation of CCS as referred to in Article 2 point a is an effort to reduce GHG Emissions through injection and storage of Carbon Emissions in the Work Area.

Article 4

Implementation of CCUS as referred to in Article 2 point b is an effort to reduce GHG Emissions and increase Oil and Gas production through injection, utilization and storage of Carbon Emissions in the Work Area.

Article 5

Injection, utilization and storage of Carbon Emissions in the Work Area in implementing CCS and CCUS as referred to in Article 3 and Article 4, preceded with activities:

- a. capture of Carbon Emissions; and/or
- b. transport of Carbon Emissions.

Part Two
Capture of Carbon Emissions

Article 6

- (1) Capture of Carbon Emissions as intended in Article 5 , a, is the Carbon Emissions originating from Upstream Oil and Gas Business Activities.
- (2) In addition to Carbon Emissions originating from Upstream Oil and Gas Business Activities, Capture of Carbon Emissions in implementing CCUS can come from other industries.
- (3) Capture of Carbon Emissions as referred to in paragraph (1) and paragraph (2) is carried out through:
 - a. separation of Carbon Emissions at Oil and Gas production facilities;
 - b. capturing carbon emissions resulting from combustion;
 - c. pre-ignition capture;
 - d. oxyfuel combustion capture; and/or
 - e. other ways according to the development of science and technology.
- (4) In addition to Carbon Emissions originating from sources as referred to in paragraph (1) and paragraph (2), capture of Carbon Emissions in the form of carbon dioxide can be derived from the atmosphere by using direct air capture technology.

Part Three

Transporting Carbon Emissions

Article 7

Transportation of Carbon Emissions as referred to in Article 5 point b is carried out using:

- a. pipe;
- b. truck;
- c. shipping; and/or
- d. other ways according to the development of science and technology.

Part Four

Carbon Emissions Injection and Storage

Article 8

- (1) Injection and storage of Carbon Emissions as referred to in Article 3 and Article 4 is the process of injecting Carbon Emissions into the Injection Target Zone in accordance with sound technical rules.
- (2) Injection Target Zone as referred to in paragraph (1) includes:
 - a. Oil and Gas field reservoirs;
 - b. Unconventional Oil and Gas reservoirs;
 - c. Salty Aquifer; or
 - d. Coal seams from GMB activities.

- (3) Carbon Emission injection and storage activities as referred to in paragraph (1) is carried out by Contractors in the Work Area during the Exploitation period.

Part Five

Utilization of Carbon Emissions

Article 9

Utilization of Carbon Emissions as referred to in Article 4 is carried out to increase oil and natural gas production and associated revenue:

- a. to enhance crude oil production;
- b. to enhance natural gas production; or
- c. to enhance gas production from GMB.

CHAPTER III

STAGES IN IMPLEMENTING CCS AND CCUS

Article 10

Implementation of CCS and CCUS as intended in Article 2 consists of the following stages:

- a. planning; And
- b. implementation.

Part One

Planning for Implementation of CCS and CCUS

Article 11

- (1) In carrying out the planning for implementing CCS and CCUS as referred to in Article 10 point a, the contractor proposes a CCS or CCUS implementation plan in the Work Area during the Exploration and Exploitation period.
- (2) The contractor plan for implementing CCS or CCUS as referred to in paragraph (1) is submitted in writing and based on an associated study submitted in writing to:
 - a. Minister through SKK Migas or BPMA, if the plan to implement CCS or CCUS is part of the initial field development plan; or
 - b. SKK Migas or BPMA, in terms of plans to implement CCS or CCUS during field development.
- (3) The plan for implementing CCS or CCUS as referred to referred to in paragraph (1) must include as a minimum:
 - a. 'technical aspects';
 - b. economic aspect;
 - c. operational aspect;
 - d. safety and environmental aspects; And
 - e. closure of activities.

Article 12

- (1) The study referred to in Article 11 paragraph (2) consists of at least:
 - a. geology;
 - b. geophysics;
 - c. reservoir
 - d. transport, storage, and injection operations including utilization for CCUS activities;
 - e. economics;
 - f. engineering;
 - g. safety and environment;
 - h. evaluation and risk mitigation; And
 - i. Monitoring and MRV.
- (2) The study referred to in paragraph (1) is carried out to confirm the eligibility of the implementation plan CCS or CCUS according to the referenced standards and rules.
- (3) The results of the study referred to in paragraph (1) at most consists of:
 - a. estimated storage capacity of the Carbon Emissions done through static and dynamic modeling at the Injection Target Zone;
 - b. depth and thickness of the Injection Target Zone;
 - c. Injection Target Zone hydraulic conductivity;
 - d. Composition of Carbon Emissions and their impact on Injection Target Zone;
 - e. integrity of the seal zone geological traps that will contain the carbon emissions. In particular:
 1. the highest limit of injection pressure in the wellbore should not exceed the fracture pressure limit formation (fracture gradient/ minimum in situ stress); And
 2. study of geomechanics and rock geochemistry.
 - f. Well Integrity in injection wells, production wells, surveillance wells, and/or abandoned wells in the surrounding which may have potential to be a source of Carbon Emission Leakage;
 - g. flow rate and injection pressure;
 - h. injection period;
 - i. well drilling design and implementation plan injection;
 - j. the resulting Injection Target Zone pressure rise injection activity;
 - k. surface facility requirements and specifications for injection operations;
 1. integrity of required surface facilities;
 - m. dynamic modeling of the distribution of Carbon Emissions during and after a certain period of injection;
 - n. estimated increase in Oil and Gas production from the results of CCUS activities;
 - o. estimated reduction of carbon emissions;

- p. economic analysis;
 - q. risk assessment and mitigation for long term storage including environmental impact, social, and public engagement;
 - r. Carbon Emissions storage capacity utilization plan; And
 - s. Monitoring and MRV plan which includes preparation stages for activities until after the cessation of CCS or CCUS activities, which are drafted in accordance with the referenced standards and good technical rules.
- (4) Injection wells as referred to in paragraph (3) point f and point i consist of:
- a. new wells specifically designated as injection wells; or
 - b. old wells converted to injection well.

Article 13

- (1) Contractors, based on technical considerations and reservoir management, can appoint, agents, or independent institutions, to carry out certification of Carbon Emissions storage capacity as referred to in Article 12 paragraph (3) point a, to SKK Migas or BPMA.
- (2) Certification is carried out after SKK Migas or BPMA approves the Contractor's proposal as referred to in paragraph (1).

Article 14

- (1) In the case of plans to organize CCS or CCUS as referred to in Article 11 paragraph (2) submitted as part of the initial field development plan as referred to in Article 11 paragraph (2) point a, SKK Migas or BPMA review the CCS or CCUS implementation plan for the Minister.
- (2) SKK Migas or BPMA review, as referred to in paragraph (1), is submitted as part of the review of the first field development plan.

Unofficial translation.

Article 15

- (1) In the case of plans to implement CCS or CCUS, as referred to in Article 11 paragraph (2), located in Working Areas that already have a field development plan, the CCS or CCUS implementation plan is submitted through a proposal for:
 - a. changes to the initial field development plan or an ongoing field development plan; or
 - b. approval for the ongoing field development plan.
- (2) Further provisions regarding proposed plans implementing CCS or CCUS as part of field development plan, as intended in paragraph (1), is determined by the Head of SKK Migas or Head of BPMA, in a working procedure manual.

Article 16

- (1) During the initial field development plan or during proposed changes referred to in Article 11 paragraph (2) point a and Article 15 paragraph (1) point a;
 - a. Minister can approve or reject proposals from the contractor based on consideration by SKK Migas; And
 - b. specifically in the area of authority of Aceh, the Minister can approve or reject the contractor's proposal after coordinating with the Governor of Aceh based on the consideration by BPMA.

- (2) For further field development plans or changes thereof as referred to in Article 11 paragraph (2) point b and Article 15 paragraph (1) point a, SKK Migas or BPMA can approve or reject the proposal from the Contractor.
- (3) In the event that the Minister, SKK Migas or BPMA approves proposal as referred to in paragraph (1) and paragraph (2), the contractor carries out CCS or CCUS activities in accordance with the provisions of the legislation-invitation.

Article 17

- (1) In the event that a CCS or CCUS implementation plan is required as part of a field development plan or its approved amendments as referred to in Article 16 paragraph (3), an amendment to the Cooperation Contract is prepared.
- (2) The contractor, through SKK Migas or BPMA, proposes in writing the approval of amendments to the Work Contract as referred to in paragraph (1) to Minister.
- (3) Based on the consideration of SKK Migas, the Minister can approve the amendment to the Cooperation Contract proposed by the Contractor through SKK Migas as referred to in paragraph (2).
- (4) Specifically in the area of authority of Aceh, the Minister, based on the consideration of the Governor of Aceh, can approve the amendment to the Cooperation Contract proposed by the Contractor through BPMA, as referred to in paragraph (2).

Article 18

- (1) To support the implementation of CCS or CCUS in a Working Area, Contractor producing Carbon Emissions may propose a plan to organize CCS or CCUS in the Work Area of other Contractors.
- (2) The plan for implementing CCS or CCUS in the Work Area of other Contractors as referred to in paragraph (1) is submitted as part of the plan field development by the Carbon Emission-producing contractor.
- (3) Provisions regarding plans to organize CCS or CCUS as referred to in Article 11 and Article 17 would be considered mutatis mutandis with the plan proposed by the Contractor producing Carbon Emissions to organize CCS or CCUS in the Work Area of other Contractors.

Part Two

Execution of CCS and CCUS Implementation

Article 19

- (1) Execution of CCS and CCUS implementation as referred to in Article 10 point b is carried out after the Contractor obtains approval on the proposed CCS or CCUS plan as referred to in Article 16 paragraph (3).
- (2) Implementation of CCS or CCUS as intended in paragraph (1) is carried out through:
 - a. preparation of mitigation and procedural documents on environmental impact, social, and public engagement, in accordance with the provisions of laws and regulations;
 - b. engineering, procurement and construction processes;
 - c. commissioning and operation of CCS or CCUS activities;
 - d. implementation of operational safety management;

- e. management of environmental aspects;
- f. implementation of emergency response activities;
- g. implementation of repair and maintenance activities;
- h. implementation of Monitoring and MRV; And
- i. closure of CCS or CCUS activities.

Part Three

Third Party Access

Article 20

- (1) Based on the approval referred to in Article 19 paragraph (1), the Contractor can inject and save Carbon Emissions generated by Third Parties in the Work Area.
- (2) Injection and storage of Carbon Emissions as referred to in paragraph (1) is carried out based on cooperation agreement between the Contractor and the Third Party.
- (3) The cooperation agreement as referred to in paragraph (2) must consider the following aspects:
 - a. technical;
 - b. reduction of Carbon Emissions;
 - c. economic; And
 - d. security of CCS or CCUS operation.
- (4) The contractor conveys the concept of cooperation agreement as referred to in paragraph (2) to SKK Migas or BPMA for consideration and approval.
- (5) Further provisions regarding consideration and approval by SKK Migas or BPMA as referred to in paragraph (4) is determined by Head of SKK Migas or Head of BPMA in a set of working guidelines.

Article 21

- (1) Third Parties, as referred to in Article 20 paragraph (1), can take advantage of the Contractor-operated CCS or CCUS operating facility implementation, as long as the facility meets the required:
 - a. technical;
 - b. economy; And
 - c. operation safety.
- (2) Utilization by Third Parties, as described in paragraph (1) is carried out in accordance with the legislative provisions.

Part Four

Cessation of CCS and CCUS Implementation

Article 22

- (1) Cessation of CCS or CCUS implementation, as referred to in Article 19 paragraph (2) point I, will be carried out when:
 - a. storage capacity of the Injection Target Zone has been reached;

- b. there are no more injected Carbon Emissions;
 - c. the Cooperation Contract period will end and is not extended;
 - d. an unsafe condition occurs; or
 - e. force majeure causes cessation of CCS or CCUS activities.
- (2) The category of force majeure as referred to in paragraph (1) point e is based on the provisions of the Cooperation Contract.

Article 23

- (1) The contractor submits a plan for terminating CCS or CCUS activities, based on the conditions referred to in Article 22 paragraph (1) points a, b, and c, to the Minister through the Head of SKK Migas or Head of BPMA.
- (2) Plans for closing CCS or CCUS activities as referred to in paragraph (1) should include:
- a. reservoir information, equipment, installations, facilities, together with wells that are closed for activities CCS or CCUS;
 - b. total reduction of Carbon Emissions;
 - c. cost estimation;
 - d. time-frame for closure; And
 - e. mitigation plan for subsequent:
 - 1. environmental damage;
 - 2. danger to humans;
 - 3. damage to resources; And
 - 4. ~~damage to equipment, installation, and facility,~~
as a result of the cessation of CCS or CCUS activities.
- (3) Head of SKK Migas or Head of BPMA conducts an evaluation of the plan to cease CCS or CCUS activities as referred to in paragraph (1).
- (4) Based on the results of the evaluation referred to in paragraph (3), Head of SKK Migas or Head of BPMA submit recommendations to the Minister.
- (5) Based on the recommendation of the Head of SKK Migas or the Head BPMA as referred to in paragraph (4), Minister approves or reject the plan for cessation of CCS or CCUS activities.
- (6) In the event that the Minister approves the CCS or CCUS activities cessation plan, as referred to in paragraph (5), the Contractor carries out the clessation of CCS or CCUS activities according to approved cessation plan.
- (7) In the event that the Minister rejects the CCS or CCUS activities cessation plan, as referred to in paragraph (5), Head of SKK Migas or Head of BPMA request the contractor to modify the plan.
- (8) Modified CCS or CCUS activities cessation plans, as referred to in paragraph (7), are submitted to the Minister through the Head of SKK Migas or the Head BPMA.
- (9) The Minister approves the modified plan to cease CCS or CCUS activities, referred to in paragraph (8), based on the recommendation of the Head of SKK Migas or Head of BPMA.

Article 24

- (1) In the event of an unsafe condition, as referred to in Article 22 paragraph (1) point d, or force majeure, as referred to in Article 22 paragraph (1) point e, the Contractor carries out the cessation of CCS or CCUS activities.
- (2) Cessation of CCS or CCUS activities, as referred to in paragraph (1), is reported to the Director General in the following time frame:
 - a. within 24 hours - through SMS;
 - b. within 48hrs – in writing; And
 - c. once every 24 hours for a progress report on cessation process for CCS or CCUS activities.
- (3) The report as referred to in paragraph (2) must include:
 - a. chronology of unsafe conditions or force majeure;
 - b. reasons for cessation of CCS or CCUS activities;
 - c. the potential impact if cessation of CCS or CCUS activities is not carried out;
 - d. procedures for cessation of CCS or CCUS activities;
 - e. security measures taken; And
 - f. reservoir information, equipment, installations, facilities, together with wells that will be shut-in, post-cessation of CCS or CCUS activities.

Article 25

- (1) The Director General verifies the completion of cessation of CCS or CCUS activities by the contractor, as referred to in Article 23 paragraph (6).
- (2) In carrying out the verification referred to in paragraph (1), the Director General may designate an independent verifier.
- (3) The Director General determines that the results of the verification indicates that cessation of CCS or CCUS activities, as referred to in paragraph (1), has been carried out according to the referenced standards and rules.
- (4) Further provisions regarding verification procedures, as referred to in paragraph (1), and based on the determination of the independent verifier, as referred to in paragraph (2), are determined by the Director General.

Article 26

Costs used for CCS or CCUS cessation activities by the Contractor, as referred to in Article 23 paragraph (6), include the verification fee, as intended in Article 25 paragraph (1), which is charged to the Contractor and calculated as part of the operating costs.

CHAPTER IV
MONITORING AND MEASUREMENT, REPORTING, AND VERIFICATION

Part One

Operational Safety Monitoring

Article 27

- (1) In carrying out CCS or CCUS activities, the contractor must carry out monitoring to guarantee worker safety, installation and equipment safety, environmental safety, and/or public safety.
- (2) Monitoring Activities, as referred to in paragraph (1), are carried out in accordance with the monitoring plan in the approved CCS or CCUS implementation plan.
- (3) Monitoring Activities, as referred to in paragraph (1), carried out since the planned implementation of CCS or CCUS are approved for up to 10 (ten) years after completion of cessation of CCS or CCUS activities, based on verification result determination, as referred to in Article 25 paragraph (3).
- (4) Monitoring activities after cessation of CCS or CCUS activities, as referred to in paragraph (3), is part of cessation and field restoration activities.
- (5) The contractor must reserve the cost of activities monitoring for a period of 10 (ten) years after completion of closing of CCS activities or CCUS, as referred to in paragraph (3).
- (6) Expenses and reserves for monitoring activities, as referred to in paragraph (3), paragraph (4), and paragraph (5), are calculated as part of the operating cost in accordance with the provisions of local regulations.
- (7) Monitoring Activities, as referred to in paragraph (2), as well as expenses, stages of cost reserves, and the amount of reserves as referred to in paragraph (6), are carried out through submission of a work plan and Contractor's proposed annual budget, approved by SKK Migas or BPMA.
- (8) All cost reserves as referred to in paragraph (5) is kept in a joint account in the name of Contractors and SKK Migas or BPMA, and implemented in accordance with the provisions of the legislation.

Article 28

Contractor in submitting a Monitoring plan, as referred to in Article 27 paragraph (2), must:

- a. consider the characteristics of the CCS or CCUS location;

And

- b. use direct or indirect methods to identify the potential risks of:

1. Leakage;
2. Contamination of ground water;
3. The integrity of the seal and geological traps; And
4. Estimating other potential risks due to Carbon Emissions injection.

Article 29

The contractor, in preparing the Monitoring plan, must apply good engineering principles and have the ability to:

- a. establish an initial environmental baseline at storage site, before injection of Carbon Emissions begins;
- b. monitor the Carbon Emissions injection facility, storage premises including Carbon Emission streams, and surrounding environment;
- c. compare monitoring results with storage location initial baseline;
- d. compare the actual behavior of Carbon Emissions in the Injection Target Zone with modeling results; And
- e. detect possible leaks and unplanned movement of carbon emissions to:
 1. assess the amount of leakage;
 2. detect effects that affect the surrounding environment;
 3. determine the necessary corrective actions; And
 4. assess the effectiveness of corrective actions.

Article 30

- (1) The Contractor is obliged to report the results of monitoring every 6 (six) months to the Director General through SKK Migas or BPMA.
- (2) In the event of a leak, contamination of ground water, unplanned movement of Carbon Emissions, and/or other risks due to injection of Carbon Emissions, the contractor is obliged to submit a report to the Director General as follows:
 - a. within 24 hours via SMS; And
 - b. within 48 hours, in writing
- (3) Based on the report, as referred to in paragraph 1) and paragraph (2), the Director General will instruct the Contractor to:
 - a. change the Monitoring method; and/or
 - b. carry out repairs to resolve the incident as intended in paragraph (2).
- (4) In instructing the Contractor to change monitoring method, as referred to in paragraph (3) point a, the Director General may request review by SKK Migas or BPMA.
- (5) The repair process, as referred to in paragraph (3) point b, is carried out by application of the rules and sound practices.

Article 31

- (1) Contractor's rights, obligations and responsibilities for implementation of CCS or CCUS in a Work Area end when:
 - a. verification results have been determined, as referred to in Article 25 paragraph (3);

- b. Monitoring results show no detected leakage, groundwater contamination, movement of unplanned carbon emissions, and/or risk to others due to injection of carbon emissions; And
 - c. the Cooperation Contract period has ended.
- (2) Before the expiration of the Cooperation Contract period, the contractor can submit a proposal to return part of the Work Area which contains a depleted reservoir in which CCS or CCUS activities have been implemented, to the Minister, through SKK Migas or BPMA.
 - (3) The return proposal, as referred to in paragraph (2), can be submitted by the Contractor if verification results, as referred to in paragraph (1) point a, and monitoring results, as referred to in paragraph (1) point b, already exist.
 - (4) The Minister gives approval to the proposal to return part of the Work Area, as referred to in paragraph (2), based on SKK Migas or BPMA considerations.
 - (5) Contractor's rights, obligations and responsibilities for implementation of CCS or CCUS, as intended in paragraph (2), expires from the date of approval of the Minister on the return of part of the Work Area, as referred to in paragraph (4).
 - (6) Since the expiration of rights, obligations and responsibilities of the contractor, as referred to in paragraph (1) and paragraph (5), the Director General supervises depleted reservoir where CCS or CCUS activities have been carried out.

Part Two

Measurement, Reporting, and Verification

Article 32

- (1) Contractors carrying out CCS or CCUS activities must carry out MRV activities.
- (2) MRV activities, as referred to in paragraph (1), are stipulated in the MRV plan, in accordance with statutory provisions.
- (3) The procedures for implementing MRV activities, as referred to in paragraph (1), should be implemented in accordance with statutory provisions.

Article 33

Contractors can utilize the NEK generated from CCS or CCUS activities using the mechanism of the appropriate statutory provisions.

Article 34

- (1) Contractors carrying out CCS or CCUS activities are required to conduct a measurement program (measurement) at least once each year.
- (2) Contractors carrying out CCS or CCUS activities, as referred to in paragraph (1), must compile measurement program (measurement) which must include at least:
 - a. inventory of Carbon Emissions during activities; And
 - b. CCS or CCUS operating parameters.
- (3) The preparation of the program, as referred to in paragraph (1), can use either direct or indirect measurement methods.

Article 35

- (1) Reporting of CCS or CCUS and NEK contains the following data:
 - a. general; And
 - b. technical.
- (2) General data reporting (reporting), as intended in paragraph (1) point a, consists of:
 - a. identity of the Contractor as executor and person in charge of CCS or CCUS activities;
 - b. title and type of activity;
 - c. mechanism of the selected CCS or CCUS and NEK activities; And
 - d. technology transfer, capacity building, and financing.
- (3) Reporting technical data, as intended in paragraph (1) point b, must include as a minimum:
 - a. calculation of the amount of Baseline GHG Emissions;
 - b. selection of the reference period in the framework of determination GHG Emission Baseline;
 - c. carbon emission reduction achievement calculation method;
 - d. monitoring results activity data including size, location, and CCS or CCUS implementation period;the amount of achievement of reduction targets and/or absorption of Carbon Emissions;
And
 - e. description of the management system, including name of person in charge, as well as the system built to monitor and collect activity data related to the implementation of CCS or CCUS and NEK.
- (4) technical data reporting as intended in paragraph (3) becomes the basis for inspection of CCS or CCUS implementation by the Minister.

Article 36

- (1) The Minister may designate an independent institution with the competence to carry out inspections, as referred to in Article 35 paragraph (4), to provide quality assurance, credibility, reliability, completeness, accuracy, and correctness of program results measurement (measurement) of the amount of carbon emissions stored in the Injection Target Zone.
- (2) The independent institution, as referred to in paragraph (1), must have competence in accordance with the provisions of the statutory regulations, with priority for a domestic independent agency.
- (3) The independent institution, as referred to in paragraph (1), must carry out an objective and professional inspection of the implementation of CCS or CCUS with minimum requirements to include:
 - a. collection of information from each carbon emission source;
 - b. data calculation and reporting; And
 - c. ability to develop guidelines and inspection mechanism in accordance with the good practices.

Article 37

The results of the examination of the implementation of CCS or CCUS, as referred to in Article 35, carried out by an independent institution, as referred to in Article 36, is submitted to the Minister through the Director General.

Article 38

- (1) Quality control and assurance of measurement results (measurement) and monitoring the implementation of CCS or CCUS is done through verification.
- (2) Verification, as referred to in paragraph (1), is carried out in accordance with the provisions of the regulations.

Article 39

- (1) Contractors must submit MRV results in writing to the Minister, through the Director General, at the latest in March of the current year.
- (2) Based on the delivery of MRV results, as referred to in paragraph (1), the Minister, through the Director General, reports the MRV results of CCS or CCUS activities as part of the GHG reduction inventory to minister in charge of government affairs in the field of environmental protection and management, no later than June of the current year.

CHAPTER V

ECONOMICS

Part One

General

Article 40

- (1) Implementation of CCS or CCUS with sources from Carbon Emissions from Upstream Oil and Gas Business Activities become part of the petroleum operation in accordance with the provisions of the Contract of Work in each Work Area.
- (2) In the event that Carbon Emissions are not sourced from Upstream Oil and Gas Business Activities, CCUS activity becomes an oil operation activity from the point where the Contractor receives Carbon Emissions to be injected in the Contractor's Work Area, as agreed by the Third Party with the contractor and in accordance with the cooperation agreement.
- (3) The entire cost of implementing CCS or CCUS carried out in the framework of petroleum operations is treated as operating expenses according to the provisions of the Cooperation Contract in the Work Area.

Part Two

Funding

Article 41

- (1) In order to help the economics of CCS or CCUS implementation, Contractor can use funding from other parties for:
 - a. implementation of the study stages;
 - b. construction of facilities for CCS activities or CCUS; and/or
 - c. GHG emission reduction certification, including:

1. administration;
 2. validation;
 3. verification; And
 4. GHG emission reduction certificate.
- (2) The funding scheme that can be used by the Contractor as referred to in paragraph (1), consists of:
 - a. project financing;
 - b. grant; and/or
 - c. other schemes in accordance with regulatory provisions.
 - (3) The funding scheme as referred to in paragraph (2) is carried out in accordance with the provisions of the regulations.

Part Three

Monetization of Implementation of CCS or CCUS

Article 42

- (1) In the event that the source of Carbon Emission comes from Upstream Oil and Gas Business Activities, monetization implementation of CCS or CCUS may consist of:
 - a. Carbon trading in complying with legislation; and/or
 - b. reimbursement of operating costs for the use of joint facilities.
- (2) In the event that Carbon Emissions are not sourced from Upstream Oil and Gas Business Activities, monetization of CCUS consists of receipts from injection and storage services.
- (3) Monetization results, as referred to in paragraph (1) and paragraph (2), is treated in accordance with the legislative provisions.

Part Four

Incentive

Article 43

- (1) In supporting the implementation of CCS or CCUS, contractors can be given incentives as specified in the laws and regulations regarding tax treatment on Upstream Oil and Natural Gas Business Activities.
- (2) Procedures for granting incentives, as intended in paragraph (1), is carried out in accordance with the legislative provisions.

Fifth Part

Insurance

Article 44

- (1) The contractor is responsible for the implementation of CCS or CCUS activities.
- (2) In carrying out the responsibilities, as referred to in paragraph (1), the Contractor may appoint an insurance company to cover the liability of part or all of the risks involved in the implementation of CCS activities or CCUS.

- (3) Underwriting of payment obligations for risks to the insurance company, referred to in paragraph (1), apply to the insured object after the Contractor proves the loss incurred is a result of an incident.
- (4) Coverage of payment obligations for risks to the insurance company referred to in paragraph (3) include environmental insurance.
- (5) Technical implementation, criteria and requirements responsibility for payment of insurance, as referred to in paragraph (2), paragraph (3), and paragraph (4), are carried out based on:
 - a. common practice in the industry insurance; and/or
 - b. the provisions of the legislation.

CHAPTER VI

ASSET

Article 45

- (1) Goods and equipment purchased by the Contractor and used directly for the implementation of CCS or CCUS activities as part of Upstream Oil and Natural Gas Business Activities becomes the property of the country.
- (2) Management of state property, as referred to in paragraph (1) is carried out in accordance with the legislative provisions.

CHAPTER VII

EMERGENCY RESPONSE

Article 46

- (1) In implementing CCS or CCUS, the Contractor shall provide an emergency response system to potentially hazardous conditions that threaten worker safety, installation safety and equipment, environmental safety, and/or public safety.
- (2) The emergency response system, referred to in paragraph (1), is structured in order to quickly and accurately control the impact damages that occur in the implementation of CCS or CCUS.

Article 47

The emergency response system as referred to in Article 46 should consists of at minimum:

- a. risk assessment;
- b. emergency response procedures;
- c. emergency response equipment including early warning equipment;
- d. educated and trained personnel; And
- e. periodic training.

Article 48

Risk assessment, as referred to in Article 47 point a, includes:

- a. identification of risks that may arise from implementation of CCS or CCUS; And
- b. mitigation of risks that must be updated periodically every 1 (one) year.

Article 49

- (1) Emergency response procedures, as referred to in Article 47 point b, covers:
 - a. efforts to deal with disaster situations identified;
 - b. reporting system to the Central Government; And
 - c. coordination with stakeholders.
- (2) Emergency response procedures, as referred to in paragraph (1), must be updated periodically every year (once a year).

Article 50

- (1) Emergency response equipment, including early warning equipment, as referred to in Article 47, point c, must be available according to the applicable technical specifications in sufficient quantity and ready-to-use condition.
- (2) Routine inspection and maintenance of equipment emergency response as referred to in paragraph (1) must be done periodically.

Article 51

Educated and trained personnel, as referred to in Article 47, point d, should include personnel who have received training to become a first responder in a response system emergency.

Article 52

Periodic training, as referred to in Article 47 point e, is carried out through simulation and practical exercises periodically, independently, and by involving stakeholders interests and the community for evacuation training.

CHAPTER VIII

GUIDANCE AND SUPERVISION

Unofficial translation. Article 53

The Minister through the Director General conducts training and supervision over the implementation of CCS and/or CCUS activities.

Article 54

Guidance on the implementation of CCS or CCUS, as referred to in Article 53, is implemented through:

- a. facilitation;
- b. consultation;
- c. technical guidance;
- d. socialization; and/or
- e. other procedures in accordance with the provisions of the legislative regulations

Article 55

- (1) Supervision of the administration of CCS or CCUS activities, as referred to in Article 53, regarding the supervision of safety aspects workers, installation and equipment safety, environmental safety and public safety, carried out by the Oil and Gas Inspector
- (2) Oil and Gas Inspector, as referred to in paragraph (1), carry out:

a. safety check of equipment, installation, and appropriate CCS or CCUS facilities with the provisions of laws and regulations;

And

b. supervision of CCS or CCUS monitoring activities regularly every 1 (one) year or at any time when necessary.

- (3) Oil and Gas Inspector submits a report on the results of safety inspection and monitoring activities of CCS or CCUS, as referred to in paragraph (2), to the Head of Inspection.
- (4) The safety inspection and CCS or CCUS activity monitoring reports, as referred to in paragraph (2), is provided in the form of an inspection report, for follow up in accordance with regulatory provisions.

CHAPTER IX

ADMINISTRATIVE SANCTIONS

Article 56

- (1) Contractors who violate the provisions, as referred to in Article 30 paragraph (1), paragraph (2), and paragraph (3) point b, Article 34 paragraph (1), and Article 46 paragraph (1), are subject to administrative sanctions in the form of:
 - a. written warning; And
 - b. temporary suspension of CCS or CCUS activities.
- (2) Administrative sanctions, as referred to in paragraph (1), are carried out by the Director General.

Article 57

- (1) ~~The written warning, as referred to in Article 56 paragraph (1) point a, is given a maximum of 3 (three) times with a warning period of 30 (three twenty) calendar days.~~
- (2) In the case of a Contractor receiving 3 (three) written warning sanction, as referred to in paragraph (1), and has still not met its obligations, the Contractor is subject to administrative sanction in the form of temporary suspension from CCS or CCUS activities.
- (3) In the event that the Contractor, who is subject to temporary suspension of CCS or CCUS activities, as referred to in paragraph (2), has implemented all obligations, administrative sanctions in the form of suspension CCS or CCUS activities, will be revoked.

CHAPTER X

OTHER PROVISIONS

Article 58

- (1) In the event that there is a potential for utilization of Depleted Reservoir as a storage location for Carbon Emissions from other contractors and CCS activities become possible mainly because oil and natural gas production has decreased, Contractors can submit utilization proposals for Depleted Reservoir CCS activities by submitting a field development plan, as referred to in Article 11 paragraph (2).
- (2) Management and implementation of CCS activities, as referred to in paragraph (1), is implemented in accordance with provisions of this Ministerial Regulation.

Article 59

- (1) In the event that a Contractor in a Work Area does not plan to use a Depleted Reservoir that has the potential to store Carbon Emissions then:
 - a. with approval from SKK Migas or BPMA, cooperation can be carried out with other parties in managing Depleted Reservoir for CCS activities, with implementation responsibility remaining with Contractor; or
 - b. The Minister may ask the Contractor to return part of the Work Area where Depleted Reservoir exists, for use by other contractors determined by the Minister, to conduct CCS activities in compliance with regulatory requirements.
- (2) Specifically in the Aceh jurisdiction, return of part of the Work Area and determination of other Contractors, as referred to in paragraph (1) point b, is given after obtaining the approval of the Governor of Aceh, based on BPMA recommendations.

Article 60

Provisions regarding planning, implementation, Third Party access, cessation of CCS or CCUS activities, repairs, Monitoring and MRV, economics, assets, emergency response, guidance and supervision, together with administrative sanctions, as referred to in Article 11 to Article 57, apply mutatis mutandis to planning, implementation, Third Party access, closure of CCS activities, repair, Monitoring and MRV, economics, assets, responsiveness emergencies, guidance and supervision, and sanctions administration, in the implementation of CCS in Depleted reservoir.

CHAPTER XI

CLOSING

Article 61

This Ministerial Regulation comes into force on the date indicated.

So that everyone knows about it, publication of this Ministerial Regulation is ordered with its placement in the State Gazette of the Republic of Indonesia.

Set in Jakarta on March 2, 2023

MINISTER OF ENERGY, MINERAL RESOURCES

REPUBLIC OF INDONESIA,

signed

ARIFIN TASRIF

Witnessed in Jakarta on March 3, 2023

MINISTER OF LAW AND HUMAN RIGHTS

REPUBLIC OF INDONESIA,

signed

YASONNA H. LAOLY

STATE GAZETTE OF THE REPUBLIC OF INDONESIA OF 2023 NUMBER 219