

**THE MINISTRY OF
NATURAL RESOURCES
AND ENVIRONMENT**

No. 25/2019/TT-BTNMT

**THE SOCIALIST REPUBLIC OF VIETNAM
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Hanoi, December 31, 2019

CIRCULAR

ELABORATING SOME ARTICLES OF THE GOVERNMENT'S DECREE NO. 40/2019/ND-CP DATED MAY 13, 2019 ON AMENDMENTS TO DECREES ON GUIDELINES FOR THE LAW ON ENVIRONMENTAL PROTECTION AND PROVIDING FOR MANAGEMENT OF ENVIRONMENTAL MONITORING SERVICES

Pursuant to the Law on Environmental Protection dated June 23, 2014;

Pursuant to the Government's Decree No. 36/2017/ND-CP dated April 04, 2017 defining the functions, tasks, powers and organizational structure of the Ministry of Natural Resources and Environment;

Pursuant to the Government's Decree No. 40/2019/ND-CP dated May 13, 2019 on amendments to Decrees on guidelines for the Law on Environmental Protection;

Pursuant to the Government's Decree No. 74/2018/ND-CP dated May 15, 2018 on amendments and supplements to a number of Articles of Decree No. 132/2008/ND-CP dated December 31, 2008, detailing the implementation of a number of Articles of the Law on Products and Goods Quality;

Pursuant to the Government's Decree No. 36/2017/ND-CP dated July 11, 2016 prescribing conditions for provision of conformity assessment services;

Pursuant to the Government's Decree No. 38/2015/ND-CP dated April 24, 2015 on management of waste and discarded materials;

Pursuant to the Government's Decree No. 19/2015/ND-CP dated February 14, 2015 detailing the implementation of a number of Articles of the Law on Environmental Protection;

Pursuant to the Government's Decree No. 18/2015/ND-CP dated February 14, 2015 on environmental protection planning, strategic environmental assessment, environmental impact assessment and environmental protection plans;

Pursuant to the Government's Decree No. 127/2014/ND-CP dated December 31, 2014 on conditions to be satisfied by environmental monitoring service providers;

At the request of the Director General of the Vietnam Environment Administration and the Director of the Department of Legal Affairs,

The Minister of Natural Resources and Environment hereby promulgates a Circular to elaborate some Articles of the Government's Decree No. 40/2019/ND-CP dated May 13, 2019 on amendments to Decrees on guidelines for the Law on Environmental Protection and provide for management of environmental monitoring services,

Chapter I

GENERAL

Scope 1. Scope and regulated entities

1. This Circular elaborates the Government's Decree No. 40/2019/ND-CP dated May 13, 2019 on amendments to Decrees on guidelines for the Law on Environmental Protection (hereinafter referred to as "the Decree No. 40/2019/ND-CP") and provides for management of environmental monitoring services.

Clause 2a Article 12 of the Decree No. 18/2015/ND-CP amended by Clause 4 Article 1 of the Decree No. 40/2019/ND-CP; Point a Clause 4 Article 14 of the Decree No. 18/2015/ND-CP amended by Clause 5 Article 1 of the Decree No. 40/2019/ND-CP; Point b Clause 4 Article 16b of the Decree No. 8/2015/ND-CP amended by Clause 9 Article 1 of the Decree No. 40/2019/ND-CP; Point b Clause 5 Article 17 of the Decree No. 18/2015/ND-CP amended by Clause 10 Article 1 of the Decree No. 40/2019/ND-CP; Point a Clause 1 Article 14b of the Decree No. 19/2015/ND-CP amended by Clause 13 Article 2 of the Decree No. 40/2019/ND-CP; Clause 4 Article 44 of the Decree No. 19/2015/ND-CP amended by Clause 23 Article 2 of the Decree No. 40/2019/ND-CP; Clause 3 Article 23 of the Decree No. 38/2015/ND-CP amended by Clause 10 Article 3 of the Decree No. 40/2019/ND-CP; Clause 10 Article 56b of the Decree No. 38/2015/ND-CP amended by Clause 30 Article 3 of the Decree No. 40/2019/ND-CP; Clause 3 Article 59 of the Decree No. 38/2015/ND-CP amended by Clause 33 Article 3 of the Decree No. 40/2019/ND-CP; Clause 2 Article 5 of the Decree No. 40/2019/ND-CP are elaborated. To be specific:

- a) Strategic environmental assessment, environmental impact assessment and environmental protection plans;
- b) Environmental improvement and remediation in mineral extraction;
- c) Inspection and certification of completion of environmental protection works;
- d) Eligibility requirements for environmental protection in import of scrap as production materials;
- dd) Publishing of environmentally friendly products and services;

- e) Criteria for selecting and appraising domestic solid waste treatment technologies;
- g) Shutdown of domestic solid waste landfills;
- h) Environmental quality management;
- i) Management of environmental monitoring services;
- k) Reporting of environmental protection.

2. This Circular applies to domestic and foreign organizations and individuals involved in environmental protection.

Article 2. Definitions

For the purposes of this Circular, the terms below shall be construed as follows:

1. “*domestic solid waste landfill*” refers to an area designed and constructed to bury domestic solid waste in accordance with regulations of the Law on Environmental Protection and other relevant regulations of law.
2. “*leachate*” refers to wastewater generated from the collection, transport and treatment of domestic solid waste.
3. “*gas from domestic solid waste landfill*” refers to a mixture of gases generated from a domestic solid waste landfill due to the natural decomposition of domestic solid waste.
4. “*buffer zone*” refers to the area surrounding a domestic solid waste landfill and is intended for preventing and reducing negative impacts of the landfill on socio-economic activities.
5. “*liner*” refers to a layer of materials spread on the entire area of the bottom and surrounding walls of a domestic solid waste landfill cell in order to prevent leachate migration into the aquifer.
6. “*cover layer*” refers to a layer of materials covered on the entire domestic solid waste landfill during its operation and upon its shutdown so as to prevent and reduce impacts of the landfill cells on surrounding environment and external impacts on the landfill cells.
7. “*gas collection system of domestic solid waste landfill*” refers to a system of works and equipment serving collection of gases from a domestic solid waste landfill to prevent and reduce air pollution, fire risk and greenhouse gas emissions.
8. “*shutdown of domestic solid waste landfill*” refers to the act of closing a domestic solid waste landfill.

9. “*Vietnam Green Label certified product/service*” refers to a product or service which is generated from raw environmentally friendly materials and materials for the purposes of ensuring environmental safety and human health and minimizing negative effects on the environment during its use and which satisfies the criteria laid down by the Ministry of Natural Resources and Environment.

10. “*wastewater treatment stage*” refers to part of the wastewater treatment process designed to effectively remove and reduce pollutants (pollution parameters). A wastewater treatment work includes one or more treatment stages (explained and described in the design documentation, such as composite equipment and works; or flotation - sedimentation stage, anaerobic tank, aerobic tank, anoxic tank, physicochemical tank, filter tank, disinfection tank, waste stabilization pond).

11. “*treatment stage of a dust/gas treatment work*” refers to part of the dust/gas treatment process designed to effectively remove and reduce pollutants (pollution parameters). A dust/gas treatment work or equipment includes one or more treatment stages (explained and described in the design documentation, such as composite equipment and works; completely built-up or synchronous treatment equipment; or equipment serving treatment of dust, SO_x, NO_x, adsorption equipment, absorption equipment and other treatment equipment).

Chapter II

STRATEGIC ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL IMPACT ASSESSMENT, ENVIRONMENTAL PROTECTION PLANS AND ENVIRONMENTAL IMPROVEMENT AND REMEDIATION IN MINERAL EXTRACTION

Article 3. Forms used in appraisal of strategic environmental assessment reports

1. Format and contents of a strategic environmental assessment report are provided in the Form No. 01a Appendix I hereof.
2. The decision to establish a strategic environmental assessment report appraisal council is provided in the Form No. 02a Appendix I hereof.
3. Evaluation report of a member of the strategic environmental assessment report appraisal council is provided in the Form No. 03 Appendix I hereof; an appraisal form of a member of the strategic environmental assessment report appraisal council is provided in the Form No. 07 Appendix I hereof; minutes of council meeting is provided in the Form No. 09 Appendix I hereof; a notification of appraisal results is provided in the Form No. 01b Appendix I hereof.

Article 4. Forms used in appraisal of environmental impact assessment reports

1. Format and contents of an environmental impact assessment report are provided in the Form No. 04 Appendix I hereof.

2. An environmental impact assessment report approved by the council shall be appraised by using the following:

a) The decision to establish an environmental impact assessment report appraisal council which is provided in the Form No. 02a Appendix I hereof;

b) An evaluation report of a member of the environmental impact assessment report appraisal council which is provided in the Form No. 06 Appendix I hereof;

c) An appraisal form of a member of the environmental impact assessment report appraisal council which is provided in the Form No. 07 Appendix I hereof;

d) A notification of appraisal results which is provided in the Form No. 08 Appendix I hereof.

3. An environmental impact assessment report shall be appraised by sending enquiries:

a) The appraising authority or authorized standing appraising authority shall send enquiries to organizations or scientific experts/officials (hereinafter referred to as "experts") according to the Form No. 02b Appendix I hereof;

b) The enquired organizations and experts shall respond in writing within 07 working days from the date of receiving the enquiry and enclose an evaluation report specified in the Form No. 06a Appendix I hereof;

c) The notification of appraisal results is provided in the Form No. 08 Appendix I hereof.

4. A project may apply the best available techniques and the best environmental management practices if at least one of the following criteria is satisfied:

a) Criteria laid down by the Organization for Economic Co-operation and Development (OECD);

b) Criteria laid down by the European Integrated Pollution Prevention and Control Bureau (EIPPCB) affiliated to the European Commission (EC).

5. Environmental changes to projects shall be approved during their execution as follows:

a) The standing authority appraising the environmental impact assessment report shall decide the list of experts among the ones that have joined the appraisal council or enquired experts upon appraisal of the environmental impact assessment report; where necessary, send enquiries to experts with suitable qualifications. The enquiry is provided in the Form No. 02b Appendix I hereof;

b) The decision to approve adjustments to the decision to approve the environmental impact assessment report is provided in the Form No. 02c Appendix I hereof;

c) Regarding changes other than those specified in Article 15 and Clause 4 Article 16 of the Decree No. 18/2015/ND-CP amended by Clause 6 and Clause 7 Article 1 of the Decree No. 40/2019/ND-CP, the project owner shall consider and decide such changes themselves, take legal responsibility and specify them in the application for inspection/certification of completion of environmental protection works.

6. The facilities, industrial parks or projects that have been put into operation have changes not specified in the ordinal number 105 Appendix II Section I in the Appendix enclosed with the Decree No. 40/2019/ND-CP, the owners of such facilities, industrial parks or projects shall decide themselves, are not required to notify the authority approving the environmental impact assessment report but shall take legal responsibility for their decision.

Article 5. Working principles of the strategic environmental assessment report appraisal council and responsibilities of the standing appraising authority

1. The strategic environmental assessment report appraisal council shall provide counseling for head of an authority appraising strategic environmental assessment reports (hereinafter referred to as “the appraising authority”); be responsible to the appraising authority and the law for its appraisal results.

2. The appraisal council shall work on the principle of public discussion between council members and between the council and the authority assigned to formulate strategies and planning by holding meetings.

3. A meeting of the appraisal council shall satisfy the following conditions:

a) At least two-thirds of council members attend the meeting in person or online, among which the president or the deputy president authorized by the chair (hereinafter referred to as “the meeting chair”), secretary and at least 01 critic are required;

b) The authorized representative of the authority assigned to formulate strategies and planning attends the meeting.

4. The absent council members may provide their evaluation reports in advance, which are considered opinions of members who are present at the meeting but are not allowed to vote.

5. Delegates attending meetings of the appraisal council shall be decided by the standing appraising authority if necessary. The delegates may express their opinions in meetings, be under the direction of the meeting chair and receive remuneration as prescribed by law.

6. A consultation with the Department of Natural Resources and Environment of the province directly related to environmental issues of the strategy or planning is held in the absence of representative from the appraisal council:

a) The standing appraising authority shall send the strategic environmental assessment report to the provincial Department of Natural Resources and Environment to collect opinions;

b) The enquired provincial Department of Natural Resources and Environment shall send its opinions in writing at the request of the standing appraising authority within 05 working days from the date of receiving the enquiry. By the aforementioned deadline, if the provincial Department of Natural Resources and Environment fails to respond in writing, it deems that the provincial Department of Natural Resources and Environment has agreed and must assume responsibility for the enquired contents related to the tasks and functions of state management of environmental protection within the province;

c) Opinions of the provincial Department of Natural Resources and Environment shall be considered and discussed at council meetings.

7. Secretary of the appraisal council must be an official of the standing appraising authority. President or deputy president and secretary of the council shall sign the minutes of meeting according to the Form No. 09 Appendix I hereof.

8. Council members and enquired authorities shall be responsible to the appraising authority and the law for their evaluation of the strategic environmental assessment report.

9. Rules for giving appraisal results:

a) Approval without any revision: if all council members participating in the meeting vote for approval without any revision;

b) Disapproval: if more than one-third of participated council members votes for disapproval;

c) Approval with revisions: other than the cases specified in Points a and b of this Clause.

10. The standing appraising authority shall submit the decision to establish a strategic environmental assessment report appraisal council; documents and notifications of appraisal results to the head of the appraising authority.

Article 6. Working principles of the environmental impact assessment report appraisal council

1. The environmental impact assessment report appraisal council (hereinafter referred to as “the appraisal council”) shall provide counseling for the head of an appraising authority; be responsible to the appraising authority and the law for its appraisal results.

2. The appraisal council shall work on the principle of public discussion between council members and between the council and the project owner by holding official meetings and thematic meetings decided by the council's president where necessary.

3. An official meeting of the appraisal council shall be only conducted if the following conditions are satisfied:

- a) At least two-thirds of council members attend the meeting in person or online, among which the president or the deputy president authorized by the chair (hereinafter referred to as “the meeting chair”), secretary and at least 01 critic are required;
 - b) The authorized representative of the project owner attends the meeting;
 - c) The fee for appraising the environmental impact assessment report has been paid as prescribed by law.
4. The absent council members may provide their evaluation reports in advance, which are considered opinions of members who are present at the meeting but are not allowed to vote.
 5. Delegates attending meetings of the appraisal council shall be decided by the standing appraising authority if necessary. The delegates may express their opinions in meetings, be under the direction of the meeting chair and receive remuneration as prescribed by law.
 6. A consultation with the Department of Natural Resources and Environment of the province directly related to environmental issues of the project is held in the absence of representative from the appraisal council established by the Ministry or ministerial agency:
 - a) The standing appraising authority shall send the environmental impact assessment report to the provincial Department of Natural Resources and Environment;
 - b) The enquired provincial Department of Natural Resources and Environment shall send its opinions in writing at the request of the standing appraising authority within 05 working days from the date of receiving the enquiry. By the aforementioned deadline, if the provincial Department of Natural Resources and Environment fails to respond in writing, it deems that the provincial Department of Natural Resources and Environment has agreed and must assume responsibility for the enquired contents related to the tasks and functions of state management of environmental protection within the province;
 - c) Opinions of the provincial Department of Natural Resources and Environment shall be considered and discussed at council meetings.
 7. Secretary of the appraisal council must be an official of the standing appraising authority. President or deputy president and secretary of the council shall sign the minutes of meeting according to the Form No. 09 Appendix I hereof.
 8. Council members and enquired authorities and experts shall be responsible to the appraising authority and the law for their evaluation of the environmental impact assessment report and tasks assigned by the council's president during the appraisal; are entitled to receive remuneration as prescribed.
 9. Rules for giving appraisal results:

- a) Approval without any revision: if all council members participating in the meeting vote for approval without any revision;
- b) Disapproval: if more than one-third of participated council members votes for disapproval;
- c) Approval with revisions: other than the cases specified in Points a and b of this Clause.

Article 7. Organizing appraisal of environmental impact assessment reports by sending enquiries to relevant organizations and experts

1. If the environmental impact assessment report is re-prepared:

- a) The enquired organizations shall be the those whose representatives have joined the environmental impact assessment report appraisal council, where necessary, enquiries may be sent to other organizations related to the project to be appraised, but the total number of organizations shall not exceed 04;
- b) The enquired experts shall be those who have joined the environmental impact assessment report appraisal council, where necessary, enquiries may be sent to other experts related to the project to be appraised, but the total number of experts shall not exceed 03.

2. If the project located in an industrial park is subject to appraisal of the environmental impact assessment report by sending enquiries to relevant organizations and experts:

- a) Regarding the project whose environmental impact assessment report is appraised by the Ministry or ministerial agencies, the number of enquired organizations and experts shall not exceed 07, including: provincial Department of Natural Resources and Environment, Management Boards of provincial industrial parks, some ministries concerned, some organizations and experts with suitable qualifications;
- b) Regarding the project whose environmental impact assessment report is appraised by the provincial People's Committee, the number of enquired organizations and experts shall not exceed 07, including: provincial Department of Natural Resources and Environment, Management Boards of provincial industrial parks, district-level People's Committees, some departments concerned, organizations and experts with suitable qualifications.

3. If the project applies the best available techniques and the best environmental management practices:

- a) The enquired organizations are those related to the project to be appraised, but the total number shall not exceed 04;
- b) The enquired experts must have suitable qualifications and the total number shall not exceed 03.

4. The appraising authority or authorized standing appraising authority shall send enquiries to the organizations and experts specified in Clauses 1, 2 and 3 of this Article after the decision to approve the list of enquired organizations and experts is obtained and the project owner has paid the appraisal fee as prescribed by law.

5. Within the time limit specified in Point a Clause 4 Article 14 of the Decree No. 18/2015/ND-CP amended by Clause 5 Article 1 of the Decree No. 40/2019/ND-CP, the enquired organizations and experts shall send their written opinions to the enquiring authority. By the aforementioned deadline, the enquired organizations and experts fails to respond in writing, it deems that they have agreed and must assume responsibility for the enquired contents related to their state management tasks and functions (if any).

6. Officials and leaders of the standing appraising authority shall sign the minutes of meeting according to the Form No. 02d Appendix I hereof.

7. Enquired organizations and experts shall be responsible to the appraising authority and the law for their evaluation of the environmental impact assessment report; are entitled to receive remuneration as prescribed by law.

8. After the expiry of the time limit for sending enquiries, relevant organizations and experts, and standing appraising authority shall consolidate and specify proposed results in the appraisal record, which will be submitted to the head of the appraising authority for consideration. The appraisal result is given according to the following rules:

a) Approval without any revision: if all organizations and experts vote for approval without any revision;

b) Disapproval: if more than one-third of participated organizations and experts votes for disapproval;

c) Approval with revisions: other than the cases specified in Points a and b of this Clause.

Article 8. Responsibilities of the standing authority appraising environmental impact assessment reports

A standing authority appraising environmental impact assessment reports has the responsibility to:

1. Submit the following documents to the head for appraisal:

a) The decision to establish a environmental impact assessment report appraisal council and list of organizations and experts to obtain critical opinions if necessary as prescribed in Clause 3 Article 24 of the Law on Environmental Protection; documents and notifications of appraisal results;

b) The decision to approve the list of enquired organizations and experts in case of appraisal of the environmental impact assessment report appraisal council through enquiries and list of enquired organizations and experts to obtain critical opinions if necessary as prescribed in Clause 3 Article 24 of the Law on Environmental Protection; documents and notifications of appraisal results.

2. Request the project owner to provide additional documents and clarify relevant contents where necessary.

3. Where necessary, form a team to carry out site survey of the area where the project will be executed. Make a record of site survey of the area where the project will be executed according to Form No. 05 Appendix I hereof.

4. During the appraisal, follow the instructions below if it is found that the project is inappropriate to continue to carry out appraisal:

a) If the project owner violates any regulation on environmental protection, make a record of administrative violation against regulations on environmental protection and transfer the record to the competent person as prescribed by law;

b) Request the appraising authority to return the environmental impact assessment report appraisal documentation to the project owner as prescribed by law; instruct the project owner to take the next steps in environmental protection as prescribed by law.

5. Consolidate results given by the appraisal council, appraisal results by seeking opinions and critical opinions of organizations and experts where necessary and notify the head of the appraising authority of appraisal results opinions within 05 working days after the appraisal is done. The notification of appraisal results shall be proposed in one of the three cases below:

a) The environmental impact assessment report is approved without any revision thereto. In this case, the standing appraising authority shall submit it together with the decision to approve the environmental impact assessment report of the project as prescribed in Clause 11 Article 14 of the Decree No.18/2015/ND-CP amended by Clause 11 Article 14 of the Decree No. 40/2019/ND-CP;

b) The environmental impact assessment report is approved provided that revisions thereto are required and reasons therefor are clearly stated. In this case, the standing appraising authority shall submit it together with the notification of appraisal results provided in the Form No. 08 Appendix 1 hereof to the project owner for revision or explanation purpose as prescribed in Clause 10 Article 14 of the Decree No.18/2015/ND-CP amended by Clause 5 Article 1 of the Decree No. 40/2019/ND-CP;

c) The environmental impact assessment report is not approved and reasons therefor are clearly stated. In this case, the standing appraising authority shall submit it together with the notification of appraisal results provided in the Form No. 08 Appendix 1 hereof.

6. Organize review of contents of the environmental impact assessment report after the project owner has revised it or provide explanation in the case specified in Point b Clause 5 of this Article and follow the instructions below in specific cases:

a) Return the application for approval for the environmental impact assessment report to the project owner if the project owner fails to revise it or provide explanation as requested;

b) Submit the environmental impact assessment report of the project to the head of the appraising authority for approval if the project owner has revised it or provided explanation as requested. If the project owner has made revision or provided explanation but some revised or explained contents fail to comply with environmental protection requirements, the standing appraising authority shall submit the environmental impact assessment report of the project enclosed with additional environmental protection requirements and environmental protection works and measures if necessary to the head of the appraising authority for approval. If the approval is granted, the project owner shall:

- complete the environmental impact assessment report, organize the implementation and assume responsibility as prescribed by law;

- comply with all contents and requirements specified in the decision to approve the environmental impact assessment report when executing an investment project or construction project as prescribed in Clause 1 Article 16 of the Decree No.18/2015/ND-CP amended by Clause 7 Article 1 of the Decree No. 40/2019/ND-CP.

7. Request the head of the appraising authority to issue the decision to approve adjustments to the decision to approve the environmental impact assessment report or replace the decision to approve the environmental impact assessment report in the case specified in Clause 5 Article 4 of this Circular.

8. Publish information regarding the decision to approve the environmental impact assessment report and environmental impact assessment report on the web portal of the appraising authority.

9. Make an estimate and pay costs incurred in connection with appraisal.

Article 9. Environmental improvement and remediation in mineral extraction

1. Guidelines for environmental improvement and remediation are provided in the Form No. 01 Appendix II hereof.

2. Procedures for appraising and approving plans for environmental improvement and remediation prepared by the entities mentioned in Point b Clause 1 and Point b Clause 2 Article 5 of the Decree No. 19/2015/ND-CP amended by Clause 2 Article 2 of the Decree No. 40/2019/ND-CP are specified in the Circular No. 38/2015/TT-BTNMT dated June 30, 2015 of the Ministry of Natural Resources and Environment.

Article 10. Regulations on monitoring of waste during trial operation of waste treatment works of projects, facilities; responsibilities of provincial specialized environmental protection authorities for supervision

1. Monitoring of a waste treatment work:

The sampling of wastewater samples for the purposes of measurement, analysis, assessment of capacity of each treatment stage and assessment of suitability of the entire waste treatment work shall comply with TCVN 5999:1995 (ISO 5667-10:1992) on water quality - Sampling - Guidance on sampling of waste water. Composite samples, monitoring frequency and parameters specified in the waste monitoring plan in Section 7 Form No. 09 Appendix VI Section I in the Appendix enclosed with the Decree No. 40/2019/ND-CP shall comply with the following regulations:

a) Composite samples: a composite sample collected using time-based method includes 03 single samples which are collected at 03 different times of the day (morning, noon - afternoon, afternoon - evening) or at 03 different times (beginning, middle, end) of a production shift, and then mixed together;

b) The time limit for capacity assessment carried out during the period when performance of each stage and effectiveness of the wastewater treatment work are adjusted is at least 75 days from the starting date of trial operation. Monitoring frequency and parameters:

- Wastewater monitoring shall be carried out at least once every 15 days (composite samples of input and output wastewater shall be measured, collected and analyzed at each treatment stage);

- Monitoring parameters of each treatment stage are main ones used to serve the design at each stage;

- Parameters used to monitor a wastewater treatment work are all of pollution parameters used to design the entire wastewater treatment work;

If necessary, the project owner may measure, collect and analyze additional samples of post-treated wastewater of the wastewater treatment work at this stage to carry out an assessment according to technical regulation on wastewater in order to take measures to adjust, improve or make additions to such wastewater treatment work in a more appropriate manner.

c) The time limit for effectiveness assessment during period of stable operation of the wastewater treatment work is at least 07 sequential days after the adjustment period prescribed in Point b of this Clause; if the sequential measurement, collection and analysis of samples fail to be carried out due to force majeure, they shall be measured, collected and analyzed on the next day.

Monitoring frequency and parameters:

- Wastewater monitoring shall be carried out at least once a day (01 single sample of input wastewater and at least 07 single samples of output wastewater of the wastewater treatment work shall be measured, collected and analyzed within 07 sequential days);

- The monitoring parameters shall comply with technical regulation on wastewater.

2. Monitoring of dust and gas treatment works and equipment:

The measurement and collection of dust and gas samples for the purposes of analysis and assessment of efficiency of each treatment work and equipment specified in the wastewater monitoring plan in Section 7 Form No. 09 Appendix VI Section I in the Appendix enclosed with the Decree No. 40/2019/ND-CP shall comply with the following regulations:

a) Composite samples shall be determined in one of the following cases:

- 01 composite sample shall be collected using the continuous sampling method (isokinetic sampling method and other methods in accordance with regulations on environmental monitoring techniques) to measure and analyze parameters as prescribed;

- 01 composite sample is the mean value of 03 measurement results given by rapid field measuring equipment (the measurement results are given by the real-time measuring equipment) at 03 different times of the day (morning, noon - afternoon, afternoon - evening) or at 03 different times (beginning, middle, end) of a production shift;

b) The time limit for capacity assessment carried out during the period when effectiveness of each dust and gas work or equipment is at least 75 days from the starting date of trial operation. Monitoring frequency and parameters:

- Dust and gas monitoring shall be carried out at least once every 15 days (input composite samples (if any) and output ones shall be measured, collected and analyzed);

- Monitoring parameters are main ones used to design each dust and gas treatment work or equipment;

c) The time limit for effectiveness assessment during period of stable operation of the dust and gas work or equipment is at least 07 sequential days after the adjustment period prescribed in Point b of this Clause; if the sequential measurement, collection and analysis of samples fail to be carried out due to force majeure, they shall be measured, collected and analyzed on the next day. Monitoring frequency and parameters:

- Dust and gas monitoring shall be carried out at least once a day (measuring, collecting and analyzing single samples or samples collected using continuous sampling equipment before the discharge of dust and gases into the environment);

- The monitoring parameters shall comply with technical regulation on wastewater.

3. The monitoring, delimitation and classification of solid waste (including sewage sludge) that is hazardous waste or ordinary industrial sold waste shall comply with regulations on management of hazardous waste.

4. During the trial operation, the project owner/facility owner shall aggregate and assess waste monitoring data using the 03 tables provided in Section 2.1.4 Form No. 13 Appendix VI Section I in the Appendix enclosed with the Decree No. 0/2019/ND-CP and submit them to the provincial specialized environmental protection authority together with the waste sample analysis report. If the waste treatment work fails to satisfy environmental protection requirements, the project owner shall perform the tasks specified in Clause 5 Article 16b of the Decree No. 18/2015/ND-CP amended by Clause 9 Article 1 of the Decree No. 40/2019/ND-CP and comply with the following requirements:

a) Submit a notification, specifying reasons that the waste treatment work fails to satisfy the requirements and appropriate remedial measures to be taken, to the authority approving the environmental impact assessment report and provincial specialized environmental protection authority before the 30-day period of trial operation;

b) Make a plan for trial operation of waste treatment work. Procedures and time for trial operation of a waste treatment work are the same as those for first trial operation.

5. For the project or facility that made a plan for trial operation of the waste treatment work as prescribed before the effective date of this Circular, the project owner or facility owner shall monitor waste as prescribed in Point c Clause 1, Point c Clauses 2 and 3 of this Article, except for the case where the provincial specialized environmental protection authority has sent a notification specifying results of inspection of trial operation of the waste treatment work. Contents of the waste monitoring shall be reported to the provincial environmental protection in advance.

The monitoring results mentioned in this Clause shall be included in 02 tables: result of assessment of conformity of the entire waste treatment system and result of assessment of effectiveness of the waste treatment system carried out using the automatic and continuous monitoring data (if the installation of the automatic and continuous waste system is required) in accordance with Section 2.1.4 Form No. 13 Appendix VI Section 1 in the Appendix enclosed with the Decree No. 40/2019/ND-CP and submit them to the provincial specialized environmental protection authority as the basis for notifying results of inspection of trial operation of the waste treatment work.

The project and facility are encouraged to carry out waste monitoring as prescribed in Points a and b Clause 1, Points a and b Clause 2 of this Article.

6. Organize the provision of environmental monitoring services, be responsible to the law and project owner/facility owner for the waste monitoring results obtained during the trial operation of the project or facility's waste treatment work.

7. Responsibilities of the provincial environmental protection in advance:

a) Assume the responsibility specified in Clause 6 Article 16b of the Decree No. 18/2015/ND-CP amended by Clause 9 Article 1 of the Decree No. 40/2019/ND-CP;

b) The completed waste treatment works specified in Point a Clause 6 Article 16b of the Decree No. 18/2015/ND-CP amended by Clause 9 Article 1 of the Decree No. 40/2019/ND-CP shall be inspected as follows:

- Inspect the documents as specified in Clause 2 Article 16b of the Decree No. 18/2015/ND-CP amended by Clause 9 Article 1 of the Decree No. 40/2019/ND-CP, including drawings of the waste treatment works in accordance with regulations on construction, which must be conformable with the technology plans or basic fundamental designs of the waste treatment works whose environmental impact assessment reports have been appraised and approved by the competent authority; records of transfer and commissioning of the waste treatment works prior to their use. Regarding composite works or completely built-up or synchronous treatment equipment, a CO/CQ is required; documents concerning installation of the automatic and continuous waste and gas monitoring system and equipment enclosed with CO/CQ of each imported equipment in accordance with regulations of law; documents concerning operation of waste treatment works of projects/facilities;

- Assign officials to carry out physical inspection (optional) of complete waste treatment works, if necessary, establish an inspectorate which shall be composed of representatives of the provincial specialized environmental protection authority and environmental monitoring unit licensed to measure, collect and analyze reference samples during trial operation of waste treatment works. The decision to assign officials to carry out physical inspection or establish an inspectorate responsible for inspection of completed waste treatment works for the trial operation purpose is issued using the Form No. 01 in the Appendix III hereof. The record of inspection of a completed waste treatment work is made using the Form No. 02 in the Appendix III hereof.

The provincial specialized environmental protection authority shall not request the project owner to provide additional documents or carry out any inspection outside the scope of this Point;

c) The provincial specialized environmental protection authority shall, according to the waste monitoring plan specified in the plan for trial operation of a waste treatment work of the project, carry out an irregular inspection at least once during the trial operation period specified in Point c Clause 1, Point c Clause 2, Clause 3 and Clause 5 of this Article in order to measure, collect and analyze waste samples (single samples shall be used) to compare them with results of monitoring of waste of the project or facility, consider and assess them as prescribed. The monitoring parameters shall comply with technical regulation on waste;

d) The provincial specialized environmental protection authority shall, according to the notification specifying results of inspection of waste treatment works, waste monitoring result given by the project owner and results of reference waste sample measurement and analysis, send a notification of results of trial operation of waste treatment works and take legal responsibility for its inspection and assessment results, which must specify its eligibility or ineligibility (specifying reason for ineligibility) for having its environmental protection works inspected and completion of environmental protection works certified. The notification given by the provincial specialized environmental protection authority is not mandatory for the project owner to implement it (the project owner may receive it or provide explanation), shall be considered as an independent opinion when the authority approving the environmental impact

assessment report inspects and certifies completion of environmental protection works of the project;

dd) The costs of measurement, collection and analysis of waste samples for the purpose of comparing them with monitoring results of the project shall be covered by the local budget for environmental protection.

Article 11. Organizing inspection and certification of completion of environmental protection works of projects and facilities

1. The head of the authority appraising and approving the environmental impact assessment report of a project or facility or the authority authorized to issue the decision on inspectorate establishment according to the Form No. 03 Appendix III hereof. The inspectorate shall be composed of the chief, deputy chief if necessary, members, experts, environmental monitoring unit (if any) and secretary.

The chief of the inspectorate shall take total responsibility for inspection of completed environmental protection works of the project or facility.

2. The inspectorate member's evaluation report on performance of environmental protection works serving the operation stage of a project or facility is prepared using the Form No. 04 Appendix III hereof.

3. The inspectorate member's evaluation report on performance of environmental protection works serving the operation stage of a project or facility is prepared using the Form No. 05 Appendix III hereof. The inspection record shall bear signatures of inspectorate's chief or deputy chief assigned or authorized by the chief, secretary and competent representative of the project owner/facility owner on every page or bear a stamp of the project owner or facility owner on adjoining edges of pages; signatures, full names and titles shall be put on the last page of the record at the end of the inspection.

The inspection record shall be sent to project owner/facility owner; provincial specialized environmental protection authority (if the project/facility has its environmental impact assessment report appraised and approved by a Ministry or ministerial agency); head of the authority establishing the inspectorate and authority appraising and approving the environmental impact assessment report and shall be kept by the inspectorate.

4. Results of inspection of environmental protection works shall be clearly stated in the inspection record and assessed in one of the following cases:

a) It is not required to carry out monitoring of waste and waste treatment works of the project or facility that has been eligible for having completion of environmental protection works certified if the following environmental protection requirements are met:

- The notification specifying result of inspection of trial operation of waste treatment works, which is given by the provincial specialized environmental protection authority, states that the

project or facility is eligible for having its environmental protection works inspected or its completion of environmental protection works certified (in which the results of monitoring of the project or facility's waste and reference waste monitoring results comply with the technical regulation on waste);

- The environmental protection works of the project or facility must prove conformable with or better than the technology plan or fundamental design plan whose environmental impact assessment report has been appraised and approved by the competent authority;

- The report on operation of environmental protection works by the project or facility must be sufficient and satisfactory as prescribed;

b) The project or facility is eligible for having its completion of environmental protection works certified but additional monitoring of waste is required when:

- The notification specifying result of inspection of trial operation of waste treatment works, which is given by the provincial specialized environmental protection authority, states that the project or facility is ineligible for having its environmental protection works inspected or its completion of environmental protection works certified (the reference waste monitoring results fail to comply with the technical regulation on waste at the time of inspection or supervision of trial operation);

- The environmental protection works of the project or facility must prove conformable with or better than the technology plan or fundamental design plan whose environmental impact assessment report has been appraised and approved by the competent authority;

- Measure, collect and analyze additional waste samples of the project or facility. The sample collection form shall be signed by representative of the inspectorate, competent representative of the project or facility and monitoring unit;

- The report on operation of performance of environmental protection works of the project or facility needs revising during the analysis of waste samples;

c) The project or facility will be ineligible for having its completion of environmental protection works certified if it fails to comply with the regulation specified in Point a or b of this Clause.

5. The post-treated waste monitoring by the inspectorate inspecting and certifying completion of environmental protection works and inspecting and confirming eligibility for environmental protection in import of scrap as production materials shall be carried out at least once (single samples shall be used) regarding the waste treatment works to be certified. It is not required to carry out waste monitoring of the work treatment works that have been inspected and certified by the competent authority. If the project or facility has multiple dust and gas treatment works which share similarities in terms of treated typical pollution parameters, treatment technology and equipment, the inspectorate shall select 01 work with the maximum capacity to carry out monitoring and assess effectiveness of such dust and gas treatment works.

6. The chief of the inspectorate and authority assigned to inspect performance of environmental protection works of the project or facility shall report inspection results to the authority approving the environmental impact assessment report and undertake the following tasks:

a) Request the authority approving the environmental impact assessment report of the project or facility to issue confirmations of completion of environmental protection works if the report on operation of environmental protection works and environmental protection works of the project or facility have satisfied the requirements set forth in Point a Clause 4 of this Article. The issuance of confirmations of completion of environmental protection works shall be done within 15 days from the receipt of the satisfactory application as specified in Clause 2 Article 28 of the Law on Environmental Protection;

b) The authority assigned to carry out inspection shall send a notification of inspection results within 05 days from the end of the physical inspection at the project or facility in case it is required to measure, collect and analyze additional waste samples and the notification shall cover other contents in the case specified in Point b Clause 4 of this Article.

If the additional waste monitoring result satisfies the technical regulation in waste and the report on operation of environmental protection works is satisfactory, the issuance of confirmations of completion of environmental protection works shall be done within 30 days from the receipt of the satisfactory application as specified in Clause 2 Article 28 of the Law on Environmental Protection. In case these requirements are not satisfied, the authority assigned to inspect performance of environmental protection works of the project or facility shall send a notification of the return of the report on operation of environmental protection works, which specifies reasons for its failure to satisfy the requirements to the project or facility;

c) The authority assigned to carry out inspection shall send a notification of the return of the report on operation of environmental protection works in case of failure to satisfy the requirements mentioned in Point a or b Clause 4 of this Article. Contents of the notification shall clearly indicate shortcomings of the documents, environmental protection works to be rectified (if any) and responsibilities of the project owner/facility owner shall comply with Clause 5 Article 16b of the Decree No. 18/2015/ND-CP added by Clause 9 Article 1 of the Decree No. 40/2019/ND-CP;

d) The confirmations of completion of environmental protection works of the entire project or facility shall be integrated into a confirmation (if any) in case the project or facility has obtained a confirmation of completion of each environmental protection work item or confirmations of completion of environmental protection works at each stage.

7. The chief of the inspectorate and authority assigned to inspect performance of environmental protection works of the project or facility shall assign officials listed in the decision on inspectorate establishment specified in Clause 1 of this Article to carry out a physical inspection of rectification of shortcomings of environmental protection works by the project or facility within 05 days from the receipt of the project owner's rectification report. The inspection record shall be made using the Form No. 06 Appendix III hereof.

Article 12. Regulations on environmental emergency preparedness and response works for wastewater

1. Environmental emergency preparedness and response works for wastewater (hereinafter referred to as “environmental emergency preparedness and response works”) must be solid, waterproof and resistant to wastewater leakage in accordance with design standards and regulations on construction or standards for quality of goods and products.

If the environmental emergency preparedness and response work is an emergency pond combined with stabilization pond, it must be designed so that it is at the last stage of the wastewater treatment system. In addition to having the function of environmental emergency preparedness and response for wastewater, the emergency pond combined with stabilization pond has the capacity for natural biological stabilization and treatment of pollution parameters of wastewater before its release into the environment.

2. If the owner of the project, facility or industrial park chooses to operate an environmental emergency preparedness and response work adopting the technical solutions specified in Clause 6 Article 37 of the Decree No. 38/2015/ND-CP added by Clause 19 Article 3 of the Decree No. 40/2019/ND-CP, the environmental emergency preparedness and response work shall comply with the following technical requirements for environmental protections:

a) It has the ability to contain wastewater in a manner that is appropriate to the capacity of the wastewater treatment system;

b) An environmental emergency preparedness and response plan should be in place during the operation by the owner of the project, facility or industrial park;

c) The emergency pond combined with stabilization pond must have works and equipment that serve the wastewater recovery to ensure that it is not discharged into the environment if any emergency occurs. Measures should be taken to prevent wastewater recontamination that may arise during the operation of the pond system;

d) If the project, facility or industrial park has multiple wastewater treatment systems, the environmental emergency preparedness and response work may be shared by such systems provided that an appropriate design and a common environmental emergency preparedness and response plan are produced;

dd) The emergency pond must not be used in combination with rainwater regulation, harvesting or drainage works at the project, facility or industrial park.

3. In addition to the technical solutions specified in Clause 6 Article 37 of the Decree No. 38/2015/ND-CP added by Clause 19 Article 3 of the Decree No. 40/2019/ND-CP, the owner of the project, facility or industrial park shall, according to the characteristics and loading rate of the wastewater flow, recommend other technical solutions to the competent authority to operate environmental emergency preparedness and response works, ensuring that the technical

requirements specified in Clause 1 of this Article 1 are satisfied and the environmental emergency preparedness and response plan is conformed to.

Chapter III

ENVIRONMENTAL PROTECTION IN IMPORT OF SCRAP AS PRODUCTION MATERIALS

Article 13. Organizing inspection and confirmation of satisfaction of eligibility requirements for environmental protection in import of scrap as production materials for projects on trial operation of wastewater treatment works

1. The inspection and confirmation of satisfaction of eligibility requirements for environmental protection in import of scrap as production materials for projects on trial operation of wastewater treatment works shall comply with Clause 4 Article 56b of the Decree No. 38/2015/ND-CP added by Clause 30 Article 3 of the Decree No. 40/2019/ND-CP.

2. The monitoring of waste during operation of waste treatment works of the project using scrap as production materials shall comply with Clauses 1, 2, 3, 4 and 5 Article 10 of this Circular.

3. Forms of documents concerning inspection and confirmation of satisfaction of eligibility requirements for environmental protection in import of scrap as production materials:

a) The decision to assign officials to carry out physical inspection or decision to establish an inspectorate to inspect satisfaction of eligibility requirements for environmental protection in import of scrap as production materials for projects on trial operation of wastewater treatment works, which is made using the Form No. 02 in the Appendix IV hereof;

b) The record of inspection of satisfaction of eligibility requirements for environmental protection in import of scrap as production materials for projects on trial operation of wastewater treatment works, which is made using the Form No. 03 in the Appendix IV hereof.

Article 14. Organizing inspection and confirmation of eligibility for environmental protection in import of scrap as production materials

1. The inspection and confirmation of eligibility for environmental protection in import of scrap as production materials shall comply with Clause 3 Article 56b of the Decree No. 38/2015/ND-CP added by Clause 30 Article 3 of the Decree No. 40/2019/ND-CP.

2. The monitoring of waste during the inspection and confirmation of eligibility for environmental protection in import of scrap as production materials for projects on trial operation of wastewater treatment works shall comply with Clause 5 Article 11 of this Circular.

3. Forms of documents concerning inspection and confirmation of eligibility for environmental protection in import of scrap as production materials:

- a) The decision to establish an inspectorate to inspect satisfaction of eligibility requirements for environmental protection in import of scrap as production materials, which is made using the Form No. 01 in the Appendix IV hereof;
- b) The evaluation report of a member of the inspectorate inspecting satisfaction of eligibility requirements for environmental protection in import of scrap as production materials, which is made using the Form No. 04 in the Appendix IV hereof;
- c) The record of inspection of satisfaction of eligibility requirements for environmental protection in import of scrap as production materials shall be made using the Form No. 05 in the Appendix IV hereof;
- d) The record of inspection of rectification of eligibility requirements for environmental protection in import of scrap as production materials, which is made using the Form No. 06 in the Appendix IV hereof.

Article 15. Forms of documents concerning site inspection of bodies assessing conformity of imported scrap with technical regulations on environment

- 1. The decision to establish an inspectorate carrying out site inspection of a body assessing conformity of scrap imported as production materials with technical regulations on environment, which is made using the Form No. 07 in the Appendix IV hereof.
- 2. The evaluation report of a member of the inspectorate carrying out site inspection of a body assessing conformity of scrap imported as production materials with technical regulations on environment, which is made using the Form No. 08 in the Appendix IV hereof.
- 3. The record of site inspection of a body assessing conformity of scrap imported as production materials with technical regulations on environment, which is made using the Form No. 09 in the Appendix IV hereof.
- 4. The decision to certify a body assessing conformity of scrap imported as production materials with technical regulations on environment, which is made using the Form No. 10 in the Appendix IV hereof.

Article 16. Organizations carrying out site inspection of applicants for assessment of conformity of scrap imported as production materials with regulations

- 1. The Ministry of Natural Resources and Environment shall assess applications for designation as bodies assessing conformity of scrap imported as production materials with technical regulations in accordance with Article 18d of the Decree No. 132/2008/ND-CP amended by Clause 8 Article 1 of the Decree No. 74/2018/ND-CP.
- 2. A site inspection shall be carried out as follows:

- a) Within 10 working days from the receipt of the satisfactory application, the Ministry of Natural Resources and Environment shall decide to establish an inspectorate;
- b) Contents of the inspection: The inspectorate shall assess the application for designation as the body assessing conformity of scrap imported as production materials with technical regulation: legal documents of the applicant; quantity and competence of the assessors; machinery and equipment serving the assessment of imported scrap; internal procedures for assessment of imported scrap; compliance with regulations of law, conformity assessment body's internal procedures appropriate to the fields covered by the designation decision applied for and regulations specified in Articles 18a and 18b of the Decree No. 132/2008/ND-CP amended by Clause 8 Article 1 of the Decree No. 74/2018/ND-CP;
- c) Within 10 working days from the date on which the inspectorate is established, the Ministry of Natural Resources and Environment shall organize the site inspection;
- d) The results of application appraisal and inspection shall serve as the basis for the Ministry of Natural Resources and Environment to issue a decision to designate a body assessing conformity of scrap imported as production materials with technical regulations on environment.

Article 17. Accreditation of competence of bodies assessing conformity of scrap imported as production materials

1. According to the results of application appraisal and site inspection, the Ministry of Natural Resources and Environment shall consider issuing a decision to accredit the body assessing conformity of scrap imported as production materials with technical regulations.
2. If the applicant is ineligible to have its/his/her competence in assessment of conformity of scrap imported as production materials accredited, the Ministry of Natural Resources and Environment shall send a notification specifying reasons therefor to the applicant in accordance with Article 18d of the Decree No. 132/2008/ND-CP amended by Clause 8 Article 1 of the Decree No. 74/2018/ND-CP.

Chapter IV

**PUBLISHING OF ENVIRONMENTALLY FRIENDLY PRODUCTS AND SERVICES;
CRITERIA FOR SELECTING AND APPRAISING DOMESTIC SOLID WASTE
TREATMENT TECHNOLOGIES; SHUTDOWN OF DOMESTIC SOLID WASTE
LANDFILLS**

Section I. PUBLISHING OF ENVIRONMENTALLY FRIENDLY PRODUCTS AND SERVICES

Article 18. Publishing of list of Vietnam green label certified environmentally friendly products and services

The Vietnam Environment Administration shall publish the list of Vietnam green label certified environmentally friendly products and services on its website.

Article 19. Mutual recognition of environmentally friendly products and services certification

The Ministry of Natural Resources and Environment shall sign and publish contents of the mutual recognition agreement on environmentally friendly products and services certification with domestic and foreign eco-label certification bodies.

Section II. CRITERIA FOR SELECTING AND APPRAISING DOMESTIC SOLID WASTE TREATMENT TECHNOLOGIES

Article 20. Criteria for selecting, assessing and publishing domestic solid waste treatment technologies

1. Criteria for selecting technologies for domestic solid waste treatment:

a) Regarding technology:

- Origin of the machinery, equipment and technology lines; technology diagram; priority shall be given to the technologies that have been assessed and appraised by the competent authority that they comply with standards and technical regulations on environment and satisfy to conditions in Vietnam;

- Level of mechanization and automation; ability to expand and increase the capacity;

- Advancement and preeminence of the domestic solid waste treatment technologies: the technologies shall be on the list of technologies (encouraged for transfer, restricted from transfer or banned from transfer) in accordance with regulations on technology transfer;

- Conformity of standards and regulations on manufacturing of machinery, equipment and technology lines with Vietnam's national technical regulations (QCVN) or national standards (TCVN) or G7 countries' standards for safety, energy saving and environmental protection;

- Ability to treat domestic solid waste with different properties;

- Synchronization of equipment on the technology lines for treatment of waste constituent, ability to use and replace domestic parts and accessories, local content of the technologies and equipment;

- Simplicity in operation of treatment technologies, service life and durability of technologies and equipment;

- Ability to combine with other technologies for domestic solid waste treatment: burning, composting and burial;

b) Regarding the environment and society:

- Compliance with environmental standards and technical regulations on gases and wastewater generated from the treatment of domestic solid waste;
- Saving the land used, aesthetics and perceptions of domestic solid waste treatment technologies;
- Ability to use local and domestic less-contaminating raw materials, fuels and materials;
- Preliminary processing of domestic solid waste prior to its treatment;
- Recovery of valuable components found in domestic solid waste;
- Recovery of energy during the treatment of domestic solid waste;
- Ability to reuse domestic solid waste or generate useful products after treatment;
- Impacts on environment, ecosystem and human during the operation of domestic solid waste treatment technologies and products after treatment;
- Level of environmental risks and capacity for response and remediation in case of technical errors;
- Capacity for adaptation, conformity and replication of domestic solid waste treatment technologies with local natural and socio-economic conditions;
- Capacity and level of training and participation of local laborers during the period of developing and operating domestic solid waste treatment technologies;

c) Regarding economy;

- The treatment costs must be relevant to the solvency of local governments or must not exceed the treatment costs published by the competent authority;
- Ability to sell products generated from the recycling of domestic solid waste treatment;
- Potentials and economic value derived from recycling of waste, energy and useful products generated after treatment of domestic solid waste;
- Market demand; quality standards applied to products after treatment;
- Suitability of technologies for the investment project's objectives and requirements and types of domestic solid waste to be treated;

- Suitability of costs of equipment development and installation; operation costs (expressed as m³/tonne); maintenance and repair costs.

2. Appraisal and assessment of domestic solid waste treatment technologies:

a) The Ministry of Natural Resources and Environment shall appraise and assess domestic solid waste treatment technologies encouraged to be applied in Viet Nam in accordance with regulations on science and technology and technology transfer;

b) Regarding domestic solid waste treatment projects or projects involving domestic solid waste treatment, the environmental protection authority or specialized environmental protection authority shall appraise and assess domestic solid waste treatment technologies in accordance with regulations on appraisal of technologies of investment projects, technology transfer and relevant regulations of law.

3. Publishing of domestic solid waste treatment technologies:

a) After the appraisal is done, the technologies that have satisfied environmental protection requirements in accordance with regulations on technology transfer and the completion of environmental protection works have been confirmed in accordance with regulations of law shall be included in a list;

b) After issuing confirmations of completion of environmental protection works to domestic solid waste treatment projects, the authority inspecting and confirming completion of environmental protection works shall submit a report on assessment of domestic solid waste treatment technologies used for such projects to the Ministry of Natural Resources and Environment;

c) According to results of confirmation of completion of environmental protection works, the Ministry of Natural Resources and Environment shall promulgate, update the list of domestic solid waste treatment technologies and publish it on the website of the Ministry of Natural Resources and Environment.

Section III. PROCEDURES FOR SHUTDOWN OF DOMESTIC SOLID WASTE LANDFILLS

Article 21. Procedures for shutdown of domestic solid waste landfills

1. A sanitary domestic solid waste landfill shall be shut down in the following cases:

a) The domestic solid waste landfill has reached its capacity approved by the competent authority;

b) The domestic solid waste landfill owner fails to keep operating the domestic solid waste landfill and fails to transfer the domestic solid waste landfill;

c) The domestic solid waste landfill is shut down at the request of the competent authority.

2. 10 working days before the shutdown of the landfill, its owner shall send a notification of the date of shutdown to the provincial specialized environmental protection authority.

3. Procedures for shutdown of a domestic solid waste landfill:

a) The domestic solid waste landfill must have a topsoil covered with clay or HDPE plastic or equivalent material of over 30%, ensuring that it maintains standard humidity and is carefully compacted with a thickness greater than or equal to 60cm. The slope from the foot to the top of the landfill is between 3% and 5%, ensuring proper drainage, no landslide and subsidence. The following activities should be carried out:

- Cover the liner consisting of sand with a thickness of 50 to 60 cm;

- Cover the soil layer with a thickness of 20 to 30 cm;

- Grow grass and green trees;

b) If the domestic solid waste landfill has multiple cells, it is required to close each cell according to the procedures specified in Point a of this Clause;

c) Within 6 months from the date of shutdown of the domestic solid waste landfill, its owner shall submit a report on the status of the domestic solid waste landfill to the authority approving environmental impact assessment reports. The report shall contain at least:

- Operation, effectiveness and capacity of all works in the domestic solid waste landfill, including waterproofing system of the domestic solid waste landfill, leachate collection and treatment system, surface water and groundwater management system, gas collection system, groundwater quality monitoring system and other environmental protection works in accordance with applicable regulations (if any);

- Results of monitoring of quality of wastewater, groundwater and gases from the domestic solid waste landfill;

- Environmental remediation, improvement of landscape of the domestic solid waste landfill and pollution control measures for the coming years;

- Topographic map of the domestic solid waste landfill, which is drawn after its shutdown;

- The shutdown of the domestic solid waste landfill will be certified completed if environmental components generated from the landfill shutdown satisfy the technical regulation on environment;

d) After the shutdown, do not allow people and animals to enter freely, especially on the landfill top where gases are amassed. Safety signs and instructions must be available in the landfill.

Article 22. Reuse of domestic solid waste landfills

1. Upon formulating planning for use and design of a domestic solid waste landfill, it is required to consider the possibility of reusing the domestic solid waste landfill after its shutdown.
2. In order to reuse the domestic solid waste landfill, its owner shall carry out survey and assessment of relevant environmental factors. If results thereof are satisfactory, the domestic solid waste landfill can be reused.
3. Pending the reuse of the domestic solid waste landfill, its owner shall keep treating leachate and gases in accordance with regulations.
4. After the shutdown of the domestic solid waste landfill, its owner shall:
 - a) monitor environmental changes at monitoring stations;
 - b) re-draw the topographic map of the domestic solid waste landfill;
 - c) submit sufficient reports on operation of the domestic solid waste landfill and propose pollution control measures for the coming years.
5. Domestic solid waste landfill transfer procedures shall be followed so that competent authorities and units may keep managing and re-using it.
6. Upon reuse of the domestic solid waste landfill, gas vents must be carefully checked. If there is no differential between the gas vent pressure and the atmospheric pressure and the gas concentration is not greater than 5%, it is allowed to carry out leveling.

Chapter V

ENVIRONMENTAL QUALITY MANAGEMENT

Section 1. MONITORING, ASSESSMENT AND ANNOUNCEMENT OF SURFACE WATER AND AIR QUALITY STATUS

Article 23. Monitoring, assessment and announcement of inland surface water quality status

1. River, lake and channel water quality monitoring points shall maintain their representativeness so that water quality status and changes are assessed according to Clause 1 Article 12 of the Decree No. 19/2015/ND-CP amended by Clause 9 Article 2 of the Decree No. 40/2019/ND-CP.
2. River, lake and channel water quality monitoring results shall be used to calculate water quality indicators at each monitoring points under the technical guidance of the Vietnam Environment Administration.

3. The Ministry of Natural Resources and Environment shall take charge of executing the national environmental monitoring program with respect to inter-provincial rivers and lakes.

4. People's Committees of provinces and central-affiliated cities (hereinafter referred to as "provincial People's committees") shall take charge of executing local environmental monitoring programs with respect to rivers, lakes, ponds and channels within their provinces, except for the case specified in Clause 3 of this Article.

5. Water quality indicators shall be posted on web portals of competent authorities set forth in Clauses 3 and 4 of this Article.

Article 24. Monitoring, assessment and announcement of air quality status

1. Urban areas of class II of higher, densely populated areas, areas with industrial parks, trade villages, areas with varied gas sources or large emission sources shall undergo air quality parameters monitoring in accordance with technical regulations on air quality at representative monitoring points for the purposes of assessment of air quality status and changes.

2. Air quality monitoring results shall be used to calculate water quality indicators in the areas mentioned in Clause 1 of this Article under the technical guidance of the Vietnam Environment Administration.

3. The Ministry of Natural Resources and Environment shall carry out air quality monitoring and assessment according to the national environmental monitoring program.

4. Provincial People's Committees shall take charge of carrying out air quality monitoring and assessment in the areas mentioned in Clause 1 of this Article within their provinces according to the local environmental monitoring program.

5. Air quality indicators shall be posted on web portals of competent authorities set forth in Clauses 3 and 4 of this Article.

Section 2. INVESTIGATION, ASSESSMENT AND WARNING OF ENVIRONMENTAL QUALITY, DETERMINATION OF DEGREE, SCOPE AND CAUSES OF CONTAMINATION AND SOIL IMPROVEMENT AND REMEDIATION

Article 25. Preliminary site investigation and assessment

1. The purpose of a preliminary investigation or assessment is to investigate or assess the site to determine if potential residual contaminants are present at concentrations exceeding the technical regulations on environment and to determine causes of contamination.

2. The scope of work will include the following elements:

a) Consolidation and review of documents concerning the potentially contaminated site;

- b) A site reconnaissance;
 - c) Collection and analysis of samples for the purpose of determining residual contaminants, residual contamination sources and preliminary assessment of contamination level;
 - d) Preparation of a preliminary investigation and assessment.
3. The procedure for preliminary site investigation and assessment is provided in the Form No. 01 Appendix V hereof.
4. According to the preliminary investigation and assessment results, perform the following activities:
- a) If it is found that a contaminant is present at concentrations exceeding the technical regulations on environment, publish the information thereon and carry out detailed site investigation or assessment as prescribed in Article 26 of this Circular;
 - b) If no contaminant is present at concentrations exceeding the technical regulations on environment, announce that the site is not contaminated.

5. Responsibilities for preliminary site investigation and assessment:

- a) The Ministry of Natural Resources and Environment shall carry out preliminary investigation and assessment of the sites specified in Clause 1 Article 14 of the Decree No. 19/2015/ND-CP amended by Clause 11 Article 2 of the Decree No. 40/2019/ND-CP, which are contaminated within multiple provinces;
- b) Provincial People's Committees shall carry out preliminary investigation and assessment of the sites specified in Clause 1 Article 14 of the Decree No. 19/2015/ND-CP amended by Clause 11 Article 2 of the Decree No. 40/2019/ND-CP, which are contaminated within provinces, except for the case specified in Point a of this Clause;

Article 26. Detailed site investigation and assessment

1. The purpose of a detailed investigation or assessment is to determine residual contaminants; residual contamination sources; level and scope of contamination; classification of contaminated sites.
2. The scope of work will include the following elements:
- a) Preparation of a detailed plan for site survey;
 - b) Detailed investigation, survey and collection of samples on the site; analysis, assessment and determination of residual contaminants, level and scope of contamination;
 - c) Mapping of the contaminated site (contaminants, level and scope of contamination);

d) Preparation of a report on detailed site investigation or assessment.

3. The procedure for detailed site investigation and assessment is provided in the Form No. 02 Appendix V hereof.

4. Detailed site investigation and assessment results may serve as the basis for determining responsibilities for environmental improvement and remediation at the contaminated site; classify contamination level of the contaminated site.

5. Responsibilities for detailed site investigation and assessment:

a) The Ministry of Natural Resources and Environment shall carry out detailed investigation and assessment of the sites that have undergone preliminary site investigation and assessment within its jurisdiction but contaminating factors fail to be found;

b) Provincial People's Committees shall carry out detailed site investigation and assessment of the sites that have undergone preliminary investigation and assessment within their jurisdiction but contaminating factors fail to be found;

c) Any organization or individual that is confirmed as the one that causes contamination shall carry out detailed site investigation and assessment as prescribed in Clause 2 of this Article.

Article 27. Classification of contaminated sites

1. Contaminated sites shall be classified into 03 following levels:

a) Total weighted point < 50 : low-level environmental contamination and chemical and pesticide residual-contamination.

b) $50 \leq$ total weighted point ≤ 75 : Medium-level environmental contamination and chemical and pesticide residual-contamination.

c) Total weighted point > 75 : High-level extremely severe environmental contamination and chemical and pesticide residual-contamination.

2. The point-based assessment shall be carried out according to the Form No. 03 Appendix V hereof.

Article 28. Rules for management of contaminated sites

1. Results of contaminated site classification shall serve as the basis for environmental decontamination, improvement and remediation of the sites where soil contaminating factors are not determined. To be specific:

a) Regarding the low-level contaminated sites specified in Point a Clause 1 Article 27 hereof, control the contaminated sites as prescribed in Article 29 hereof;

b) Regarding the medium-level contaminated sites specified in Point b Clause 1 Article 27 hereof, control the contaminated sites as prescribed in Article 29 hereof; prepare and implement the plan for environmental decontamination, improvement and remediation of these sites according to Article 30 of this Circular within the budget;

c) Regarding the high-level contaminated sites specified in Point c Clause 1 Article 27 hereof, immediately carry out environmental decontamination, improvement and remediation as prescribed in Article 30 hereof.

2. Regarding the sites where soil contaminating entities have been determined, they shall carry out environmental decontamination, improvement and remediation as prescribed in Article 30 hereof.

3. The environmental decontamination, improvement and remediation shall conform to the land use planning approved by the competent authority.

Article 29. Control of contaminated sites

1. The control of a soil contaminated site will include the following elements:

a) Issuance of announcements and warnings and reiteration of contaminated sites;

b) Restriction of activities on the site for the purposes of preventing contaminants from spreading and directly impacting the environment and public health;

c) Dissemination of information and raising of awareness or relevant entities and communities in the vicinity of the contaminated site;

d) Periodic monitoring of environmental quality on the contaminated site and its vicinity; publishing of information about environmental quality.

2. Provincial People's Committees shall control contaminated sites within their provinces.

Article 30. Environmental decontamination, improvement and remediation

1. The environmental decontamination, improvement and remediation of contaminated sites shall be based on the environmental decontamination, improvement and remediation plan.

2. The plan shall contain the following main contents:

a) General information about the contaminated site;

b) Results of investigation and assessment of the level of risk of the contaminated site.

c) Decontamination methods (whether in-situ decontamination or ex-situ decontamination that involves transport of contaminants to a designated decontamination facility);

d) Decontamination techniques and technology solutions for mitigation or removal of residual contaminants from the contaminated site; comparison of technical alternatives and analysis for the purpose of selecting an optimum solution;

dd) Control and supervision during and after decontamination;

e) Decontamination plan implementation roadmap and schedule.

Detailed contents of the environmental decontamination, improvement and remediation plan are provided in the Form No. 04 Appendix V hereof.

2. Responsibility for preparing the decontamination plan: the owner of the environmental decontamination, improvement and remediation project shall prepare a decontamination plan. To be specific:

a) Regarding the project within the jurisdiction of the state to carry out dissemination, the project owner shall set up and submit the project for approval in accordance with the Law on State Budget. If such project is funded by the central government budget, the project approving authority shall submit the project dossier to the Ministry of Natural Resources and Environment to obtain opinions prior to the approval;

b) Regarding the project the jurisdiction of an organization or individual to carry out dissemination, the organization or individual shall submit the decontamination plan to the Ministry of Natural Resources and Environment or provincial People's Committee within its jurisdiction to carry out preliminary investigation and assessment as prescribed in Clause 5 Article 25 hereof.

Article 31. Responsibilities of the Ministry of Natural Resources and Environment

1. Carry out investigation and assessment, consolidate and publish the list of contaminated sites within its jurisdiction; develop, update and operate information and database systems for contaminated systems nationwide.

2. Develop and issue technical guidelines for environmental improvement and remediation of each type of contaminated site.

3. Organize the environmental decontamination, improvement and remediation in accordance with regulations of law.

Article 32. Responsibilities of provincial People's Committees

1. Compile, update and report the list of sites contaminated with chemicals during the war; sites with industrial parks, production plants, chemical depots, agrochemicals, waste landfills and craft villages which have been closed or relocated; the toxic mineral mining area which has terminated extraction; local agricultural production areas that use a lot of chemicals to the Ministry of Natural Resources and Environment.

2. According to results of preliminary and detailed site investigation and assessment, provincial People's Committees shall update information about contaminated sites to the information and database systems of the Ministry of Natural Resources and Environment.

Article 33. Responsibilities of organizations and individuals causing environmental contamination

1. Any organization or individual that is confirmed as the one that causes environmental contamination shall carry out detailed site investigation and assessment, prepare an environmental decontamination, improvement and remediation plan and submit it to the Ministry of Natural Resources and Environment or provincial People's Committee for consideration and supervision purpose.

2. The environmental decontamination, improvement and remediation shall be carried out according to the plan specified in Clause 1 of this Article and results shall be reported to the Ministry of Natural Resources and Environment or provincial People's Committee.

Chapter VI

MANAGEMENT OF ENVIRONMENTAL MONITORING SERVICES; REPORTING OF ENVIRONMENTAL PROTECTION

Article 34. Registration of environmental testing services

1. The testing services registration prescribed in Clause 1 Article 4 of the Government's Decree No. 36/2017/ND-CP dated July 11, 2016 shall comply with the Government's Decree No. 127/2014/ND-CP dated December 31, 2014.

2. Applicants for registration of testing services in conformity with environment sector and certification of eligibility for provision of environmental monitoring services may choose to follow administrative procedures for issuance of the certificate of registration of testing services in conformity with environment sector and certificate of eligibility for provision of environmental monitoring services in accordance with regulations on single-window system promulgated by the Minister of Natural Resources and Environment.

Article 35. Responsibilities of providers of environmental monitoring services after the certificate is obtained

1. Every provider of environmental monitoring services shall prepare physical or electronic documents about environmental monitoring services it provides to serve the inspection work.

Documents concerning environmental monitoring services include chemicals logbook; test reports; records of environmental monitoring equipment, laboratory sample transfer records or system, records of quality assurance and control in environmental monitoring and data management in accordance with regulations of the Circular No. 24/2017/TT-BTNMT dated September 01, 2017 of the Ministry of Natural Resources and Environment, liquidation minutes

and other methods of contracting with customers in accordance with the civil law and other relevant documents.

2. Upon providing environmental monitoring services, if the provider signs service contracts with customers, such contracts shall bear the provider's unique signs and the date of the contract shall be clearly stated. The signs shall contain ordinal numbers indicating the date on which the first contract is signed and the date on which the last contract is signed in chronological order in a calendar year.

3. Results shall be returned to customers via test reports bearing the signature and seal of the competent authority. The test reports shall be prepared using a unique form, containing at least:

- Name of the provider;

- Names of customers;

- Number of the Vimcerts;

- Date of delivery of the test report;

- Signs of the reports: The signs shall contain ordinal numbers indicating the date on which the first report is delivered and the date on which the last report is delivered in chronological order in a calendar year. The provider may add more sign codes to serve its classification and internal management with but must adhere to the numbering principles.

- Analysis results: parameters, methods used, measurement results, regulations, standards or technical specifications used for reference purpose (if any)

- In case the provider hires another provider to monitor the parameters that the former is not allowed to monitor, it is required to specify name of the provider in charge and enclose the analysis report given by such provider.

A record or system should be in place to manage test reports delivered to customers, containing at least: signs of the reports (including their ordinal numbers); date of delivery of the reports and names of customers.

4. If a provider carries out environmental monitoring itself to serve its researches and carries out monitoring for internal supervision purpose without signing contracts and delivering test reports to a second party, it is not required to comply with the regulations laid down in Clauses 1, 2 and 3 of this Article.

Article 36. Management of environmental monitoring services provided by secondary monitoring units

The management of environmental monitoring services provided by monitoring units shall comply with Article 35 hereof. Sample transfer records shall be included in the documentation of environmental monitoring service providers and secondary monitoring units.

Article 37. Reporting of environmental protection

1. Owners of projects and production, trading and services establishments, except for the entities specified in Clause 2 of this Article shall:

- a) prepare an environmental protection report according to Appendix VI hereof;
- b) archive documents related to the report to serve the comparison by competent authorities upon inspection;
- c) submit annual environmental protection report (the reporting report begins from 01 January to 31 December inclusive) to competent authorities before January 01 of the next year. The first report shall be submitted before January 31, 2021.

d) submit the report to:

- the authority that has approved and certified the environmental impact assessment reports, environmental protection programs, environmental protection plans or equivalent environmental documents of the projects or establishments;

- Departments of Natural Resources and Environment (of the provinces where the projects and production, trading and services establishments are available);

2. Investors in construction and trading of technical infrastructures of industrial parks shall comply with reporting regulations in accordance with regulations on environmental protection in industrial parks.

Chapter VII

IMPLEMENTATION

Article 38. Transitional clauses

1. Any application received before the effective date of this Circular shall be processed in accordance with regulations of law at the time of receipt unless the applicant requests the application of this Circular.

2. Any mineral extraction facility that has its environmental impact assessment report approved or environmental protection plan certified but fails to have an environmental improvement and remediation plan which is an integral part of the environmental impact assessment report or environmental protection plan, the authority approving the environmental improvement and remediation plan shall consider granting approval at the request of the project owner or facility

owner as prescribed in Point b Clause 3 Article 7 of the Decree No. 19/2015/ND-CP amended by Clause 4 Article 2 of the Decree No. 40/2019/ND-CP.

Article 39. Responsibility for implementation

1. Ministries, ministerial agencies, Governmental agencies; People's Committees at all levels shall direct the implementation of this Circular.
2. Provincial Departments of Natural Resources and Environment shall assist provincial People's Committees in implementing this Circular within their provinces.

Article 40. Effect

1. This Circular comes into force from February 15, 2020.
2. This Circular repeals Point a Clause 2 Article 12, Clause 2 Article 18, Clause 2 Article 21, Article 25 and Article 26 of the Circular No. 31/2016/TT-BTNMT dated October 14, 2016 of the Minister of Natural Resources and Environment; Appendix 3 of the Circular No. 38/2015/TT-BTNMT dated June 30, 2015 of the Minister of Natural Resources and Environment;
3. The Circular No. 26/2015/TT-BTNMT dated May 28, 2015, Circular No. 27/2015/TT-BTNMT dated May 29, 2015, Circular No. 41/2015/TT-BTNMT dated September 09, 2015 and Circular No. 30/2016/TT-BTNMT dated October 12, 2016 of the Minister of Natural Resources and Environment are null and void from the effective date of this Circular.
4. Regulations on periodic reporting by production, trading and services establishments (including reports periodic environmental monitoring, automatic and continuous monitoring, domestic solid waste management, ordinary industrial solid waste management, hazardous waste management, imported scrap management, results of environmental monitoring and remediation in mineral extraction) which were specified in previous documents shall be implemented in accordance with this Circular from its effective date.
5. Reports on domestic solid waste management, ordinary industrial solid waste management, hazardous waste management and imported scrap management which are mentioned in Section III of the Appendix enclosed with the Circular No. 40/2019/ND-CP shall be incorporated into the environmental protection report specified in this Circular.
6. Difficulties that arise during the implementation of this Circular should be reported to the Ministry of Natural Resources and Environment for consideration./.

**PP. THE MINISTER
THE DEPUTY MINISTER**

APPENDIX VI

ENVIRONMENTAL PROTECTION REPORT

Part 1. Results of operation of works, environmental protection measures

1. Regarding environmental protection works in relation to wastewater

Wastewater treatment

- List of wastewater treatment works, including changes, if any;
- Total volume of wastewater generated;
- Results of operation of wastewater treatment system, connection of the wastewater treatment system to that of the industrial park or industrial cluster (with regard to facilities located in the industrial park or industrial cluster); based on monitoring results, analyzing effectiveness of the wastewater treatment system, parameters (if any) that exceed permissible limits specified in the regulation and remedial measures.

1.2. Wastewater monitoring results

- Consolidation of monitoring results obtained in each monitoring period (periodic monitoring, automatic and continuous monitoring);

1.2.1. Periodic wastewater monitoring

- Date of monitoring:
- Monitoring frequency: (specified in the environmental impact assessment report or environmental protection plan or equivalent).
- Monitoring locations, quantity of samples monitored:

Table 1. Locations of monitoring points

No.	Name of monitoring point	Monitoring point number	Date of monitoring	Sampling location		Description of monitoring point
				Longitude	Latitude	

1	Area 1	Point 1	Date/month/year			
-	Monitoring point 1			106°08.4 65'	21°12.88 1'	E.g., at the sewer prior to discharge
-	Monitoring point 2					
...						
2	Area 2					
-	Monitoring point 1					
-	Monitoring point 2					
...						

- Monitoring parameters:

Table 2. List of monitoring parameters

No.	Composition of environment to be monitored	QCVN applied
1	Parameter ...	E.g., QCVN 40 column A; Kq = 1.1; Kf = 0.9
2	Parameter ...	

- Assessment of monitoring results:

- 1) Assessing monitoring data and results obtained in each area, making a comparison according to the approved QCVN mentioned in the environmental impact assessment report or environmental protection plan or equivalent.
- 2) Making a list of monitoring points which have parameters that exceed permissible limits specified in the regulation and unusual issues, if any.
- 3) Tabulating results of each composition monitored. The monitoring and analysis report certified by a monitoring unit shall be retained to serve the inspection and comparison when necessary.

Table 3. Monitoring results

No.	Monitoring point number	Sample number	Parameter group		Parameter group	
			Parameter	Parameter	Parameter	Parameter
			Measurement unit	Measurement unit	Measurement unit	Measurement unit

1	Point 1	Sample 01				
		Sample 02				
					
2	Point 2	Sample 01				
		Sample 02				
					
Value determined according to applicable QCVN/TCVN						

- Conclusion:

Assessment of each monitoring area; parameters that exceed permissible limits and excess levels specified in the approved QCVN mentioned in the environmental impact assessment report or environmental protection plan or equivalent.

1.2.2. Automatic and continuous monitoring of wastewater

a) General information about the automatic and continuous wastewater monitoring system

- Location where the station is installed (coordinates and map of the location).
- Description of characteristics of monitored waste sources
- Frequency of data acquisition
- List of monitoring parameters, value of parameters determined according to QCVN to make a comparison with actual monitoring values.
- Information about calibration and verification of equipment: date and frequency of calibration and verification.

b) Status of the station

- Breakdowns of the automatic and continuous monitoring system, causes thereof and remedial actions
- Periods of time over which the automatic and continuous monitoring system is suspended
- Levels of adequacy of monitoring results

Table 4. Monitoring data

Parameters	Parameter 1	Parameter 2	Parameter 3
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Designed monitoring values					
Monitoring values obtained					
Error/unusual monitoring values					
Ratio of data obtained in comparison with designed values (%)					
Ratio of error/unusual values compared with values obtained (%)					

Note:

- *Designed monitoring value: e.g., if the data acquisition frequency is 5 minutes/time, the designed values obtained in 1 hour and 1 day is $60/5=12$ values and $12 \times 24 = 288$ values respectively.*

- *Monitoring values obtained: values actually obtained.*

- *Error/unusual values: values obtained during monitoring equipment error/damage period.*

Table 5. Incidents occurring at stations and remedial measures

Name of incident	Date	Causes and remedial measures taken
Incident 1		
Incident 2		

c) Assessment of monitoring results

- Calculating 1-hour monitoring values (regarding parameters with the data acquisition frequency of less than 1 hour).

- Comparing 1-hour monitoring values with those specified in QCVN (regarding parameters specified in QCVN).

- Enumerating days on which the 1-hour mean value exceeds the limit specified in QCVN.

- Providing explanation for unusual increase in monitoring values.

- Aggregating 1-hour mean values that exceed the limits specified in QCVN (according to each parameter)

Table 6. 1-hour values exceeding limits specified in QCVN

Parameters	Number of days on which the 1-hour mean value exceeds limit specified in QCVN	1-hour mean value exceeding limit specified in QCVN	Ratio of 1-hour mean value exceeding limit specified in QCVN (%)
<i>Parameter 1</i>			
<i>Parameter 2</i>			
...			

Note: The ratio of 1-hour mean value exceeding the limit specified in QCVN equals 1-hour mean value divided by (:) total 1-hour mean value obtained.

d) Conclusion:

- Assessment of levels of adequacy of data obtained
- Parameters that exceed permissible limits; excess time compared with that in corresponding QCVN.

2. Regarding environmental protection works in relation to gases

2.1. Gas treatment

- List of gas treatment works, including changes, if any;
- Total flow of gas generated;
- Results of operation of the gas treatment system: based on monitoring results, analyzing effectiveness of the gas treatment system, parameters (if any) that exceed permissible limits specified in the regulation and remedial measures.

2.2. Gas monitoring results

- Consolidation of monitoring results obtained from each monitoring (periodic monitoring, automatic and continuous monitoring);

2.2.1. Periodic gas monitoring

- Date of monitoring:

- Monitoring frequency: (specified in the environmental impact assessment report or environmental protection plan or equivalent).

- Monitoring locations, quantity of samples monitored:

Table 1. Locations of monitoring points

No.	Name of monitoring point	Monitoring point number	Date of monitoring	Sampling location		Description of monitoring point
				Longitude	Latitude	
1	Area 1	Point 1	Date/month/year			
-	Monitoring point 1			106°08.4 65'	21°12.88 1'	E.g. at the stack... of the factory
-	Monitoring point 2					
...						
2	Area 2					
-	Monitoring point 1					
-	Monitoring point 2					
...						

- Monitoring parameters:

Table 2. List of monitoring parameters

No.	Composition of environment to be monitored	QCVN applied
1	Parameter ...	E.g., QCVN 51:2017/BTNMT column A2; Kp = 1; Kv = 0.6
2	Parameter ...	

- Assessment of monitoring results:

1) Assessment of monitoring data and results obtained in each area, making a comparison according to the approved QCVN mentioned in the environmental impact assessment report or environmental protection plan or equivalent.

2) Making a list of monitoring points which have parameters that exceed permissible limits and unusual issues, if any.

3) Tabulating results of each composition monitored. The monitoring and analysis report certified by a monitoring unit shall be retained to serve the inspection and comparison when necessary.

Table 3. Monitoring results

No.	Monitoring point number	Sample number	Parameter group		Parameter group	
			Parameters	Parameters	Parameters	Parameters
			Measurement unit	Measurement unit	Measurement unit	Measurement unit
1	Point 1	Sample 01				
		Sample 02				
		...				
2	Point 2	Sample 01				
		Sample 02				
					
Value determined according to applicable QCVN/TCVN						

- Conclusion:

Assessment of each monitoring area; parameters that exceed permissible limits and excess levels specified in the approved QCVN mentioned in the environmental impact assessment report or environmental protection plan or equivalent.

2.2.2. Automatic and continuous monitoring of gases

a) General information about the automatic and continuous gas monitoring system

- Location where the station is installed (coordinates and map of the location).
- Description of characteristics of monitored waste sources
- Frequency of data acquisition
- List of monitoring parameters, value of parameters determined according to QCVN to make a comparison with actual value.

- Information about calibration and verification of equipment: date and frequency of calibration and verification.

b) Status of the station

- Breakdowns of the automatic and continuous monitoring system, causes thereof and remedial actions

- Periods of time over which the automatic and continuous monitoring system is suspended

- Levels of adequacy of monitoring results

Table 4. Monitoring data

Parameters	Parameter 1	Parameter 2	Parameter 3
Designed monitoring values					
Monitoring values obtained					
Error/unusual monitoring values					
Ratio of data obtained in comparison with designed values (%)					
Ratio of error/unusual values compared with values obtained (%)					

Note:

- *Designed monitoring values: e.g., if the data acquisition frequency is 5 minutes/time, the designed values obtained in 1 hour and 1 day is $60/5=12$ values and $12 \times 24= 288$ values respectively.*

- *Monitoring values obtained: values actually obtained.*

- *Error/unusual values: values obtained during monitoring equipment error/damage period.*

Table 5. Incidents occurring at stations and remedial measures

Name of incident	Date	Causes and remedial measures taken
Incident 1		
Incident 2		

c) Assessment of monitoring results

- Calculating 1-hour monitoring values (regarding parameters with the data acquisition frequency of less than 1 hour).
- Comparing 1-hour monitoring values with those specified in QCVN (regarding parameters specified in QCVN).
- Enumerating days on which the 1-hour mean value exceeds the limit specified in QCVN.
- Providing explanation for unusual increase in monitoring values.
- Aggregating 1-hour mean values that exceed the limits specified in QCVN (according to each parameter)

Table 6. 1-hour values exceeding limits specified in QCVN

Parameters	Number of days on which the 1-hour mean value exceeds limit specified in QCVN	1-hour mean value exceeding limit specified in QCVN	Ratio of 1-hour mean value exceeding limit specified in QCVN (%)
<i>Parameter 1</i>			
<i>Parameter 2</i>			
...			

Note: The ratio of 1-hour mean value exceeding the limit specified in QCVN equals 1-hour mean value divided by (:) total 1-hour mean value obtained.

d) Conclusion:

- Assessment of levels of adequacy of data obtained
- Parameters that exceed permissible limits; excess time compared with that in corresponding QCVN on gases corresponding to each business line.

3. Regarding management of solid waste

Making a list of waste generated (if more than one facility generates domestic solid wastes and ordinary industrial solid wastes, each facility shall make a specific list)

Domestic solid wastes:

No.	Domestic solid wastes	Quantity (kg)	Organizations/Individuals receiving domestic solid wastes	Note
1				
3	Total quantity			

Ordinary industrial solid wastes (including those generated regularly and irregularly):

No.	Ordinary industrial solid wastes	Quantity (kg)	Organizations/Individuals receiving ordinary industrial solid wastes	Note
1	Directly used as materials for production			
2	To be treated			
3				

Hazardous wastes (including those generated regularly and irregularly):

Name of waste	Hazardous waste code	Quantity (kg)	Treatment method ⁽ⁱ⁾	Organizations/Individuals receiving hazardous wastes	Note
				(names of hazardous wastes and hazardous waste management method codes)	E.g., For re-use; export; co-processing, etc.
Total quantity					

⁽ⁱ⁾ Specify code of the treatment method applied to each hazardous waste: TC (Tận thu/tái chế) (“Recovery/Recycling”); TH (Trung hòa) (“Neutralization”); PT (Phân tách/chiết/ lọc/kết tủa) (“Separation/extraction/filtration/precipitation”); OH (Oxy hóa) (“Oxidation”); SH (Sinh học) (“Biology”); ĐX (Đồng xử lý) (“Co-processing”); TĐ (Thiêu đốt) (“Incineration”); HR (Hóa rắn) (“Solidification”); CL (Cô lập/đóng kén) (“Isolation/Clamping”); C (Chôn lấp) (“Burial”); TR (Tẩy rửa) (“Cleaning”); SC (Sơ chế) (“Preliminary processing”); Other (specify name of the method).

a1) Imported hazardous wastes (if any):

Name of waste	Hazardous	Basel	Quantity (kg)	Cross-border	Foreign treatment
---------------	-----------	-------	---------------	--------------	-------------------

	waste code	code		transport company	facility
				(name and address)	(name and address)
Total quantity					

a²) Hazardous wastes that are self-reused, preliminarily processed, recycled, treated or co-processed, energy recovery from hazardous wastes within the facility producing hazardous wastes (if any):

Name of waste	Hazardous waste code	Quantity (kg)	Method for self-reuse, preliminary processing, recycling, treatment or co-processing of hazardous wastes or energy recovery from hazardous wastes
Total quantity			

- Hazardous waste management plan for the next reporting period (except for the case where the waste source owner has operated for less than 01 year):

- Results of monitoring of sewage sludges and solid wastes containing 1-star hazardous hazardous constituents (if any)

4. Results of remedial actions taken as requested by the inspecting authority and competent authority (if any)

Part 2. Collection, transport and treatment of domestic solid wastes, ordinary industrial solid wastes, hazardous wastes¹

1. Regarding owners of domestic solid waste/ordinary industrial solid waste collection/transport establishments

A. General

- Quantity of domestic solid wastes collected and transported:

- Information about facilities producing domestic solid wastes that transfer domestic solid wastes:

No.	Name of facility	Quantity (kg)	Note
1			
2			

Total quantity		
----------------	--	--

- Information about owners of domestic solid waste treatment facilities that receive collected and transported domestic solid wastes for treatment:

No.	Name of owner of domestic solid waste treatment facility	Quantity (kg)	Note
1			
2			
	Total quantity		

B. Regarding ordinary industrial solid wastes

- Quantity of ordinary industrial solid wastes collected and transported:.....

- Information about organizations transferring ordinary industrial solid wastes:.....

No.	Name of organization	Quantity (kg)	Note
1			
2			
	Total quantity		

- Information about owners of ordinary industrial solid waste treatment facilities that receive collected and transported ordinary industrial solid wastes for treatment:

No.	Name of owner of ordinary industrial solid waste treatment facility	Quantity (kg)	Note
1			
2			
	Total quantity		

2. Regarding owners of treatment facilities

2.1 List of treated wastes

A. Regarding domestic solid wastes

Quantity of treated domestic solid wastes

Name of waste	Quantity (kg)	Treatment method	Note
			(specify corresponding treatment facilities if there is more than one facility; or for export, reuse, etc.; or untreated)
Total			

Information about waste source owners, owners of domestic solid waste collection/transport establishments

No.	Name of waste source owner/Owner of domestic solid waste collection/transport establishment	Quantity (kg)	Note
1			
..	Total quantity		

B. Regarding ordinary industrial solid wastes

Quantity of ordinary industrial solid wastes to be managed:

No.	Ordinary industrial solid wastes	Quantity (kg)	Treatment method	Note
1	Directly used as materials for production			Transferred to an appropriate production establishment
2	Preliminarily processed as production materials or co-processed			Classified, preliminarily processed, reused, treated, etc.
3	To be treated.....			Burned, incinerated

Information about collected ordinary industrial solid waste source owners:

No.	Name of waste source owner	Quantity (kg)	Note
1			
	Total quantity		

Information about ordinary industrial solid waste collection/transport establishment owners that transfer ordinary industrial solid wastes (if any):

No.	Name of owner	Quantity (kg)	Note
1			
	Total quantity		

Results of supervision of treatment and assessment of effectiveness in treatment of ordinary industrial solid wastes and other issues (environmental pollution control and environmental protection; emergency preparedness and response; occupational safety and health protection; periodic training):

C. Regarding hazardous wastes

C1. Quantity of hazardous wastes transported and treated:

Name of waste	Hazardous waste code	Quantity (kg)	Treatment method ⁽ⁱ⁾	Note
				(specify corresponding treatment facilities if there is more than one facility; or for export, reuse, etc.; or untreated)
Total quantity				

⁽ⁱ⁾ Except for the case where the owner of the hazardous waste transport establishment prepares the report, specify code of the treatment method applied to each hazardous waste: TC (Tận thu/tái chế) (“Recovery/Recycling”); TH (Trung hòa) (“Neutralization”); PT (Phân tách/chiết/ lọc/kết tủa) (“Separation/extraction/filtration/precipitation”); OH (Oxy hóa) (“Oxidation”); SH (Sinh học) (“Biology”); ĐX (Đồng xử lý) (“Co-processing”); TĐ (Thiêu đốt) (“Incineration”); HR (Hóa rắn) (“Solidification”); CL (Cô lập/đóng kén) (“Isolation/Clamping”); C (Chôn lấp) (“Burial”); SC (Sơ chế) (“Preliminary processing”); Other (specify name of the method).

C2. Information about waste source owners that transfer hazardous wastes:

Name of waste source owner	Hazardous waste management method code	Quantity (kg)	Note
Total quantity			

C3. Information about other hazardous waste treatment facility owners that transfer hazardous wastes:

Name of hazardous waste treatment facility owner	Hazardous waste management method code	Quantity (kg)	Note
Total quantity			

C4. Information about hazardous waste treatment facility owners or hazardous waste treatment facility owners that receive hazardous wastes for treatment:

Name of hazardous waste treatment facility owner	Hazardous waste management method code	Quantity (kg)	Note
Total quantity			

2.2. Reporting of supervision of treatment and assessment of effectiveness in treatment of domestic solid wastes, ordinary industrial solid wastes and hazardous wastes;

2.3. Reporting of environmental pollution control and environmental protection; emergency preparedness and response; occupational safety and health protection; periodic training;

Part 3. Management of imported scraps²

Confirmation No. :..... Date of issue Place of issue

1. Import and use of scraps imported during the year

Shipments of imported scraps	Date of import	Quantity of scraps imported	Border checkpoint of import	Bonds on scraps	Refund/use of bonds
1. Scraps...					
Shipment 1					
Shipment 2...					
Total					
Used					
2. Scraps...					

2. Imported scrap warehouses/storage areas: in addition to the use and management of imported scrap warehouses/storage areas, it is required to report changes and adjustments.

3. Production and recycling of scraps.

4. Assessment certificate of quality of shipments granted customs clearance in case of exemption from inspection (except for the contents mentioned in specific sections)

Part 4. Environmental improvement and remediation upon mineral mining³

- Environmental improvement and remediation items constructed during the reporting period;

- Environmental improvement and remediation items completed during the reporting period;

- Deposits made during the reporting period and total amount of deposits made by the date of reporting.

1 Only applicable to owners of domestic solid waste/ordinary industrial solid waste/hazardous waste collection/transport/treatment establishments

2 Only applicable to establishments that use imported scraps as production materials

3 Only applicable to organizations and individuals mining minerals

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