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Contents

DEPARTMENT OF FORESTRY, FISHERIES AND THE ENVIRONMENT

NO. 2272 **11 July 2022**

NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998
(ACT NO. 107 OF 1998)

PROPOSED REGULATIONS PERTAINING TO FINANCIAL PROVISIONING FOR THE MITIGATION AND REHABILITATION OF ENVIRONMENTAL DAMAGE CAUSED BY RECONNAISSANCE, PROSPECTING, EXPLORATION, MINING OR PRODUCTION OPERATIONS

I, Barbara Dallas Creecy, Minister of Forestry, Fisheries and the Environment, hereby consult on the intention to repeal the Financial Provisioning Regulations, 2015 published under Government Notice No. 1147 in Government *Gazette* No. 39425 of 20 November 2015 and to make Regulations pertaining to the financial provisioning for reconnaissance, prospecting, exploration, mining or production operations under sections 44(1)(aE), (aF), (aG), (aH) read with sections 24(5)(b)(ix), 24(5)(d), 24N, 24P and 24R of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as set out in the Schedule hereto.

Members of the public are invited to submit written comments or input, within 45 days from the date of the publication of this Notice in the Government *Gazette*, to any of the following addresses:

By post to: Department of Forestry, Fisheries and the Environment
The Director-General
Attention: Dr Dee Fischer
Private Bag X447
PRETORIA
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By hand at: Reception, Environment House, 473 Steve Biko Road, Arcadia, Pretoria.

By e-mail: dfischer@environment.gov.za
By phone: 012 399 8843

Any inquiries in connection with the Notice can be directed to Dr Dee Fischer at dfischer@environment.gov.za.

Comments or input received after the closing date may not be considered.

MS B D CREECY
MINISTER OF FORESTRY, FISHERIES AND THE ENVIRONMENT

SCHEDULE

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CHAPTER 1
DEFINITIONS, PURPOSE AND APPLICATION OF THESE REGULATIONS

Definitions

1. (1) In these Regulations, any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned, and unless the context indicates otherwise—

"annual rehabilitation plan" means the plan contemplated in regulation 8(1)(i)(aa) of these Regulations;

"applicant" means a person who applies for—

(a) a permit, right and permission in terms of the Mineral and Petroleum Resources Development Act, excluding permits, rights or permissions contemplated in regulation 3(2) and 3(3)(a) and (b);
(b) a consent in terms of section 102 of the Mineral and Petroleum Resources Development Act relating to a mining permit or a prospecting, exploration, mining or production right, excluding any consent for amendment or variation of an environmental management programme or works programme where there is no change to the scope of the operation; and

(c) an environmental authorisation in terms of the Environmental Impact Assessment Regulations for an activity for which the Minister has issued an exemption in terms of section 106(1) of the Mineral and Petroleum Resources Development Act;

"audit" means a review by independent specialists of the scientific and engineering acceptability of the management, mitigation and rehabilitation measures and the adequacy of related costs associated with complying to the provisions of these Regulations;

"closure certificate" means the certificate contemplated in section 43 of the Mineral and Petroleum Resources Development Act which is issued when the risk threshold is reached;

"closure rehabilitation company" means a company provided for in section 37A of the Income Tax Act, 1962 (Act No. 58 of 1962) and which is set up in terms of the Companies Act, 2008 (Act No. 71 of 2008);

"closure rehabilitation trust" means a trust provided for in section 37A of the Income Tax Act, 1962 (Act No. 58 of 1962) and which is set up in terms of the Trust Property Control Act, 1988 (Act No. 57 of 1988);

"decommissioning" means the shutdown of an operation with the removal of redundant buildings and the withdrawal from service of equipment, plant and machinery used in relation to an operation regulated in terms of the Mineral and Petroleum Resources Development Act;

"**Environmental Impact Assessment Regulations"** means the Regulations published in terms of sections 24(5) and 44 of the Act;

"environmental risk assessment report" means an assessment and report contemplated in regulation 8(1)(i)(cc) of these Regulations;

"final rehabilitation, decommissioning and mine closure plan" means a plan contemplated in regulation 8(1)(i)(bb) of these Regulations;

"financial guarantee" means a financial guarantee, which identifies the Minister as the beneficiary, issued by a financial institution as defined in the Financial Sector Regulation Act, 2017 (Act No. 9 of 2017);

"financial institution" means a bank as defined in the Banks Act, 1990 (Act No. 94 0f 1990) or insurer licensed to conduct non-life insurance business in the class 'guarantees' as defined in the Insurance Act, 2017 (Act No. 18 of 2017);

"holder" means the holder of-

(a) an environmental authorisation for an activity for which the Minister has issued an exemption in terms of section 106(1) of the Mineral and Petroleum Resources Development Act; and

(b) permission, permit and right issued in terms of the Mineral and Petroleum Resources Development Act for which no closure certificate has been issued, excluding permits, rights or permissions contemplated in regulation 3(2) and 3(3)(a) and (b), and an old order right for which a conversion as contemplated in Schedule II to the Mineral and Petroleum Resources Development Act, is pending;

"incident" means an unanticipated and unusual natural event which causes, has caused or may cause environmental damage;

"independent" in relation to a specialist or auditor conducting tasks identified in these Regulations, means that—

(a) such specialist or auditor has no business, financial, personal or other interest in undertaking such tasks excluding normal and fair remuneration for work performed in connection with such tasks; or
(b) there are no circumstances that may compromise the objectivity of that specialist or auditor in performing such tasks;

"latent environmental impacts" means impacts which are existing and defined, but not yet developed and will manifest post-closure;

"low risk commodities" means minerals which pose a low latent environmental risk when mined and are

(a) clay (CY);
(b) aggregate (RM; Gn; St; Stw; M;)
(c) slate (MS);
(d) pebbles (no code);
(e) limestone (L);
(f) diamonds (D);
(g) dimensional stone (M);
(h) gravel (grav); and
(i) sand (Q and Codes QY, QH, Qwd);

but excludes—

(i) base metals (B); and
(ii) minerals identified in (a) to (i) mined through underground mining methods;

"master rate" means the prescribed rate applied to specific mitigation and rehabilitation activities for an operation identified in regulation 7, to be undertaken progressively, at decommissioning and closure and post-closure to manage post-closure impacts;

"market related" means, in relation to the cost of provision of a good or service, the total cost that would be payable to an independent third party provider of that good or service dealing at arm's length, excluding applicable VAT;

"Mineral and Petroleum Resources Development Act" means the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002);

"mining" means the extraction of a mineral from the earth or any residue deposit or stockpile and includes underground gasification;

"Minister" means the Minister responsible for mineral resources and in the case of regulation 14, includes the Minister responsible for water affairs;

"mitigate" means to alleviate, reduce or make less severe;

"onshore seismic survey" means a terrestrial geological survey involving vibration produced artificially but excludes a desktop study and an aerial survey;

"parent or affiliate company" refers to any company that controls or is controlled by the applicant or holder including by having the power to materially influence the management of such company;

"parent or affiliate company guarantee" is a National Treasury approved, legally binding commitment, by the parent or affiliate company of the applicant or holder, registered in a country which is a signatory to the Convention on the Recognition and Enforcement of Foreign Arbitral Awards, 10 June 1958 (New York Convention) and maintains throughout the life of the guarantee, a long term global scale rating which is at least BBB- from one of Standard and Poor's Ratings Services or Fitch Ratings, or Baa3 from Moodys Investors Service, who guarantees to fulfil environmental liability obligations for and on behalf of the holder or applicant in question;

"post-closure" means the period after final rehabilitation, decommissioning and mine closure has been completed but before the risk threshold has been reached and a closure certificate is issued in terms of the Mineral and Petroleum Resources Development Act;

"progressive rehabilitation" involves the mitigation and rehabilitation of disturbed areas concurrently throughout the life of the prospecting, mining, reconnaissance, exploration or production operation, as opposed to the large scale works at the end of the operation;

"**risk profiling**" means to provide a non-subjective understanding of risks posed by a prospecting, mining, exploration or production operation by assigning numerical values to variables representing different types of environmental risks and the dangers they pose;

"risk threshold" means a determination of the environmental risk resulting from a prospecting, mining, exploration or production operation, which is regarded as being acceptable after the closure objectives have been implemented and the latent environmental impacts have been calculated and which is to be included in the environmental risk assessment report contemplated in these Regulations;

"specialists" means a team of professionals who are qualified by virtue of their demonstrable knowledge, qualifications, skills or expertise in the mining, environmental science, water management and treatment, resource economy, engineering and quantity surveying and are registered with a relevant professional body;

"sustainable end state" the site specific situation for land, water and air at the time of reaching the risk threshold;

"the Act" means the National Environmental Management Act, 1998 (Act No. 107 of 1998);

"unscheduled closure" means the closing of a reconnaissance, prospecting, exploration, mining or production operation prior to the intended date scheduled for final closure of operations identified in the approved final decommissioning and mine closure plan contemplated in regulation 8(1)(i)(bb); and

"VAT" means value-added tax contemplated in the Value-Added Tax Act, 1991 (Act No. 89 of 1991).

(2) The following words will have the meaning assigned to them in terms of section 1 of the Mineral and Petroleum Resources Development Act:

(a) "effective date";
(b) "exploration operation";
(c) "mineral";
(d) "mining operation";
(e) "old order right";
(f) "production operation";
(g) "prospecting operation";
(h) "residue deposit"; and
(i) "residue stockpile.

(3) When a period of days must be reckoned in terms of these Regulations from or after a particular day, that period must be reckoned as from the start of the day following that particular day to the end of the last day of the period, but if the last day of the period falls on a Saturday, Sunday or public holiday, that period must be extended to the end of the next day which is not a Saturday, Sunday or public holiday.

Purpose of these Regulations

2. The purpose of these Regulations is to—
(a) establish the obligation of an applicant and holder to progressively plan, implement and manage activities and procedures to mitigate and rehabilitate environmental damage caused by reconnaissance, exploration, prospecting, mining and production operations;
(b) regulate the manner in which an applicant or holder must determine, provide, set aside, maintain and manage financial security for undertaking progressive rehabilitation, decommissioning, closure and post-closure activities associated with reconnaissance, exploration, prospecting, mining and production operations;
(c) identify the circumstances under which the Minister and the Minister responsible for water affairs may use the financial provision set aside to effect the obligation of the holder;
(d) ensure that the State does not become liable for the costs of mitigation, rehabilitation and management of negative environmental impacts and environmental damage which should be covered by a holder; and
(e) facilitate environmentally sustainable mining.

Application of these Regulations

3. (1) These Regulations apply to an applicant and a holder, notwithstanding the applicability of section 52(1) of the Mineral and Petroleum Resources Development Act.

(2) These Regulations do not apply to an applicant or holder of-

(a) a retention permit or a technical co-operation permit contemplated in sections 31 and 76 of the Mineral and Petroleum Resources Development Act respectively; and
(b) a reconnaissance permission or permit or an exploration right contemplated in section 13, 74 or 79 of the Mineral and Petroleum Resources Development Act where the application includes only a desktop study or aerial survey.

(3) These Regulations do not apply-

(a) to an applicant or holder of a reconnaissance permit contemplated in section 74 of the Mineral and Petroleum Resources Development Act for an offshore operation, where the application includes a seismic survey;
(b) an applicant or holder of an exploration right contemplated in section 79 of the Mineral and Petroleum Resources Development Act for an offshore operation, where the application includes a seismic survey but no drilling of stratigraphic wells; and
(c) in the case of an incident in which case separate arrangements must be made to cover the liability associated with such activities or incident;

and where these Regulations do not apply, the provisions of section 28 of the Act applies.

CHAPTER 2

THE ENVIRONMENTAL OBLIGATION OF AN APPLICANT AND HOLDER

Obligation of an applicant and holder to plan for, finance and implement environmental mitigation, rehabilitation and management measures

4. Every applicant and holder has an obligation to plan, finance, implement and manage such procedures, requirements, activities and measures in respect of mitigation, progressive rehabilitation, final rehabilitation, decommissioning, closure and post-closure activities related to reconnaissance, exploration, prospecting, mining and production operations as identified in these Regulations.

CHAPTER 3

FINANCIAL PROVISIONING

General principles

5. (1) Financial provisioning is an iterative process of impact assessment and risk profiling to identify, calculate, predict and provide for the costs of mitigating, rehabilitating and managing the negative environmental impacts and risks associated with reconnaissance, prospecting, exploration, mining and production operations, determined against approved closure objectives designed to achieve an approved sustainable end state, in the short, medium and long term.

(2) The financial provision liability may not be deferred against assets at mine closure or mine infrastructure salvage value.

(3) The holder, Chief Executive Officer, or the board of directors and each director individually of the holder where relevant, or person appointed in a similar position, or, where liquidation or business rescue proceedings have been initiated, the liquidator or business rescue practitioner of the operation is ultimately responsible for implementing the requirements of these Regulations and signing off on all documentation submitted to the Minister.

Purpose of financial provisioning

6. The financial provision must guarantee the availability of sufficient funds for—
(a) progressive rehabilitation;
(b) decommissioning and closure activities; and

(c) the mitigation and management of latent environmental impacts including the ongoing pumping and treatment of polluted or extraneous water, where relevant;

to ensure that –

(i) a reconnaissance, exploration, prospecting, mining or production operation can be rehabilitated to the approved sustainable end state at the scheduled or unscheduled closure of operations; and
(ii) latent impacts post-closure are mitigated, rehabilitated and managed.

Determining of the financial provision using the prescribed template, spreadsheet and master rates

7. (1) An applicant applying for—

(a) a reconnaissance permission;
(b) a reconnaissance permit;
(c) a prospecting right which excludes the removal and disposal of minerals;
(d) an exploration right which includes only an onshore seismic survey;
(e) a mining permit for a low risk commodity; and
(f) an environmental authorisation in terms of the Environmental Impact Assessment Regulations for a mining operation contemplated in section 16 or 27 of the Mineral and Petroleum Resources Development Act for which the Minister has issued an exemption in terms of section 106(1), when that operation relates to a low risk commodity—

must determine the financial provision using the prescribed template, spreadsheet and master rates for implementing the activities associated with progressive rehabilitation, decommissioning and mine closure and the management of latent environmental impacts.

(2) In the case of an application for consent in terms of section 102 of the Mineral and Petroleum Resources Development Act to amend or vary a right or permit contemplated in subregulation (1)(c) to (e) or an application to amend an environmental authorisation contemplated in subregulation(1)(f), the applicant must—

(a) review and revise the information provided in the template contemplated in subregulation (1) in relation to the amendment or variation applied for, and review and revise the information provided in the spreadsheet contemplated in subregulation (1) to re-assess the calculations of the financial provisioning; and
(b) where necessary, adjust the financial provision set aside or demonstrate that sufficient financial provisioning has already been set aside, should that be the case.

(3) The completion of the information provided in the template, spreadsheet and the determination of the financial provision contemplated in subregulation (1) and the review and re-assessment contemplated in subregulation (2) must be undertaken by independent specialists.

(4) An applicant contemplated in subregulation (1) must submit, with the documentation for an environmental authorisation in terms of the Environmental Impact Assessment Regulations, the completed template and spreadsheet for approval by the Minister.

(5) An applicant applying for consent to amend or vary a right or permit, or to amend an environmental authorisation contemplated in subregulation (2), must submit, with the documentation for an environmental authorisation in terms of the Environmental Impact Assessment Regulations, the reviewed template and spreadsheet for approval by the Minister.

(6) Where an adjustment is required to the financial provision contemplated in subregulation (2)(b), the proof of payment of the adjusted financial provision or the replacement guarantee issued in relation to the adjusted financial provision must be submitted with the documentation for an environmental authorisation in terms of the Environmental Impact Assessment Regulations.

Determining of the financial provision using the plans and report system

8. (1) An applicant applying for—

(a) a prospecting right which includes the removal and disposal of a mineral;
(b) mining permit for commodities other than low risk commodities;
(c) a mining right;
(d) an exploration right other than an exploration right related to an onshore seismic survey;
(e) a production right; or
(f) an environmental authorisation in terms of the Environmental Impact Assessment Regulations for a mining operation contemplated in section 16, 22 or 27, for which the Minister has issued an exemption in terms of section 106(1) of the Mineral and Petroleum Resources Development Act, when that operation does not relate to a low risk commodity—

must determine the financial provision by—

(i) itemising all activities and costs, based on actual market related rates for implementing the activities for—

(aa) progressive rehabilitation, determined in an annual rehabilitation plan, conforming to the content requirements of Appendix 1 to these Regulations;
(bb) final rehabilitation, decommissioning and mine closure, determined in the final rehabilitation, decommissioning and mine closure plan, conforming to the content requirements of Appendix 2 to these Regulations; and
(cc) rehabilitation and management of latent environmental impacts, including the ongoing pumping and treatment of polluted or extraneous water, where relevant, determined in an environmental risk assessment report, conforming to the content requirements of Appendix 3 to these Regulations; and

(ii) calculating the financial provision using the methodology conforming to the requirements identified in Appendix 4 to these Regulations.

(2) In the case of an application for consent in terms of section 102 of the Mineral and Petroleum Resources Development Act to amend or vary a permit or right contemplated in subregulation (1)(a) to (e) or to amend an environmental authorisation contemplated in subregulation (1)(f), in order to determine the continued adequacy of the financial provision, the applicant must—

(a) review the plans and report contemplated in subregulation (1)(i)(aa), (bb) and (cc) in relation to the amendment or variation applied for, to—

(i) re-assess the activities and costs for progressive rehabilitation to be undertaken in the next year contemplated in subregulation (1)(i)(aa);
(ii) re-assess the activities and costs for final rehabilitation, decommissioning and mine closure contemplated in subregulation(1)(i)(bb); and
(iii) re-assess the activities and costs for rehabilitation and management of latent environmental impacts contemplated in subregulation (1)(i)(cc);
(b) re-assess the calculation of the financial provision based on the re-assessed activities and costs using the calculation methodology contemplated in Appendix 5 to these Regulations; and
(c) adjust the financial provision set aside or demonstrate that sufficient financial provisioning has already been set aside should that be the case.

(3) The determination and review of the financial provision contemplated in subregulation (1) and (2) must be undertaken by independent specialists.

(4) An applicant contemplated in subregulation (1) must submit with the documentation for an environmental authorisation in terms of the Environmental Impact Assessment Regulations, for approval by the Minister—

(a) the annual rehabilitation plan contemplated in subregulation (1)(i)(aa);
(b) the final rehabilitation, decommissioning and mine closure plan contemplated in subregulation (1)(i)(bb);
(c) the environmental risk assessment report contemplated in subregulation (1)(i)(cc); and
(d) the calculation of financial provision using the methodology contemplated in Appendix 4 to these Regulations.

(5) An applicant applying for consent to amend or vary a permit or right or to amend an environmental authorisation contemplated in subregulation (2), must submit with the documentation for an environmental authorisation in terms of the Environmental Impact Assessment Regulations—

(a) for approval, the—
(i) reviewed plans and report contemplated in subregulation (2)(a); and
(ii) re-assessed calculations and the adjusted or confirmed financial provision contemplated in subregulation (2)(b) and (2)(c); and
(b) for information—
(i) proof of availability of the adjusted financial provision should an adjustment be required; or
(ii) confirmation of the adequacy of the financial provision already set aside should that be the case.

Availability of the financial provision

9. (1) A holder must provide funds for the costs required to implement the activities for annual rehabilitation through the operational budget of the holder.

(2) An applicant contemplated in regulation 7(1) and regulation 8(1) must provide proof of the arrangements made to secure the financial provision prior to the issuing of the environmental authorisation in the case of—

(a) a financial guarantee, a letter from the financial institution confirming that it will issue the financial guarantee should the requisite permissions, permits, rights or authorisations be granted;
(b) a closure rehabilitation company or a closure rehabilitation trust, a signed affidavit from the directors or trustees confirming the deposit of the approved sum; and

(c) proof of a security provided under section 30 of the National Water Act, 1998 (Act No. 38 of 1998) where such security has been provided.

(3) A holder contemplated in regulation 7(1) and 8(1) must provide, within 60 days of the effective date of the permission, permit or right or granting date of the environmental authorisation, proof of the availability of the financial provision in the case of—

(a) a closure rehabilitation company or a closure rehabilitation trust, a signed affidavit from the directors or trustees confirming the deposit of the approved sum;
(b) a financial guarantee and parent or affiliate company guarantee, the original guarantee; and
(c) a security provided under section 30 of the National Water Act, 1998 (Act No. 38 of 1998) where such security has been provided.

(4) When submitting the original financial guarantee contemplated in subregulation (3)(b), proof of registration of the institution providing such a financial guarantee in terms of the Financial Sector Regulation Act, 2017 (Act No. 9 of 2017) must be provided.

(5) The approved sum of the financial provision must remain in place until a closure certificate is issued, unless withdrawals contemplated in regulation 15 are approved or replacement guarantees for adjusted financial provision contemplated in regulation 11 are provided, whereafter the balance of the financial provision must remain in place until a closure certificate is issued.

(6) Financial provision for rehabilitation and management of latent impacts must, on the issuing of a closure certificate, be transferred to the closure rehabilitation trust contemplated in regulation 10(1)(a) for the purposes of undertaking the rehabilitation and management of latent impacts.

(7) Financial provisioning must be clearly linked and apportioned to the permission, right, permit or an environmental authorisation in the case of an exemption issued by the Minister in terms of section 106(1) of the Mineral and Petroleum Resources Development Act, to which it relates, including funds transferred to the Minister contemplated in subregulation (6).

(8) If a combination of financial vehicles is used, the vehicles and amounts provided for per vehicle, linked to the relevant permission, right, permit or environmental authorisation, must be indicated by the applicant when acting in accordance with subregulation (2).

Financial vehicles available for setting aside financial provision

10. (1) An applicant or holder must set aside financial provision by using one or a combination of a—

(a) cash deposited into the closure rehabilitation trust administered by the Minister on behalf of applicants or holders established for the sole purpose of regulation 6(b) and (c);
(b) closure rehabilitation company or a closure rehabilitation trust established for the sole purposes of regulation 6(b) and (c);
(c) financial guarantee other than a fixed term guarantee, in favour of the Minister; or
(d) parent or affiliate company guarantee in favour of the Minister as approved by the National Treasury and subject to applicable financial sector legislation.

(2) Where the financial vehicle used is a closure rehabilitation trust contemplated in subregulation (1)(a), no interest will be payable by the Minister for any amounts deposited in such a closure rehabilitation trust.

(3) A closure rehabilitation company or a closure rehabilitation trust contemplated in subregulation (1)(a) and (b) must include the minimum content as set out in Appendix 6 to these Regulations.

(4) The financial guarantee contemplated in subregulation (1)(c) must be prepared in the format as set out in Appendix 7 and when making use of such a guarantee, proof of registration of the institution providing the guarantee must accompany.

(5) The parent or affiliate company guarantee contemplated in subregulation (1)(d) must be prepared in accordance with the requirements of National Treasury.

(6) The trustees or directors empowered to administer the assets of the closure rehabilitation company or closure rehabilitation trust contemplated in subregulation (1)(b) must pay out funds from the closure rehabilitation company or closure rehabilitation trust when ordered to do so by the Minister after the procedures set out in regulation 14 have been complied with.

(7) A parent or affiliate company guarantee contemplated in subregulation (1)(d) may only be used as a financial vehicle by an applicant for or holder of an exploration right or production right in terms of sections 79 and 83 respectively of the Mineral and Petroleum Resources Development Act.

(8) A financial guarantee may not be used as a financial vehicle for the costs associated with mitigation, rehabilitation and management of latent environmental impacts.

Review and update of templates, spreadsheets, plans and reports and confirmation or adjustment of the financial provision

11. (1) In line with the iterative process of impact assessment and risk profiling, a holder must annually review and update the template, spreadsheet, plans, report and calculation contemplated in regulation 7 or 8 with a view to re-assessing—

(a) the environmental impacts;
(b) closure objectives; and
(c) sustainable end state;

to determine—

(i) the appropriateness of the mitigation and rehabilitation measures;
(ii) the acceptability of the risks; and
(iii) the adequacy of the financial provision.

(2) The review and update contemplated in subregulation (1) —

(a) must be finalised no later than 6 weeks from the holder's financial year end directly following the review year; and
(b) may be undertaken by internal specialists.

(3) A holder must, on completion of the actions contemplated in subregulation (1) and no later than the 6 week period contemplated in subregulation (2)(a) after the holder's financial year end of the review year, confirm or adjust the financial provision calculation according to the findings of the review and update of the template, spreadsheet, plans and report and the recalculation of the financial provisioning.

(4) Within 90 days of confirming or adjusting the financial provisioning calculations contemplated in subregulation (3), a holder must—

(a) set aside the adjusted financial provision, if not confirmed, in line with the findings of the review, update and recalculation; and
(b) submit for approval by the Minister—
  (i) the revised template and spreadsheet contemplated in regulation 7 or the revised plans and reports contemplated in regulation 8; and
  (ii) confirmation of the adequacy of the reviewed or the adjusted financial provision; and
(c) submit to the Minister for information the proof of payment of the adjusted financial provision or the replaced guarantee.

Audits and related requirements

12. (1) A holder must ensure that the template, spreadsheet, plans, report and calculations contemplated in regulation 7 and 8 and the reviewed and updated template, spreadsheet, plans, report and calculation contemplated in regulation 11 are audited every five years, commencing from the effective date of the permission, right or permit, and the date on which the environmental authorisation is granted in the case of an exemption has been issued by the Minister in terms of section 106(1) of the Mineral and Petroleum Resources Development Act.

(2) The audit must be—

(a) concluded within a period not exceeding 60 months from the effective date of a permission, right or permit or the granting date of the environmental authorisation;
(b) conducted by independent specialists except in the case of the oil and gas sector, by specialists from a parent or affiliate company;
(c) included in the form of an auditor's report signed by each of the specialists; and
(d) submitted for approval within 30 days from the receipt of the auditor's report contemplated in paragraph (c).

(3) A holder must, in addition to and with the report contemplated in subregulation 2(c), where relevant, submit to the Minister, the annual audited financial statements undertaken in compliance with the Companies Act, 2008 (Act No. 71 of 2008), and the Companies Regulations, 2011, once completed.

Cancellation and claiming against a financial guarantee or parent or affiliate company guarantee

13. (1) In the event that the financial institution intends to cancel a financial guarantee or parent or affiliate company guarantee which supports a financial provision, the financial institution or parent or affiliate company must communicate its intentions, by written notice which must be hand delivered to facilitate signing of acceptance of such notice, to the holder, the Minister or his delegated authority/official and the Minister responsible for environmental affairs, at least six months in advance, which 6 months is calculated from the date of acceptance of such notice.

(2) On receipt of the notification of the intention to cancel the financial guarantee or parent or affiliate company guarantee, the holder must—

(a) within 7 days of receiving the notification, notify the Minister and the Minister responsible for environmental affairs of the intended cancellation; and

(b) within 60 days from giving notice in terms of paragraph (a), provide the Minister with an alternative arrangement for the financial provisioning for approval.

(3) Where an alternative arrangement contemplated in subregulation (2)(b) is not received by the Minister within the 67 days contemplated in subregulation (2), the Minister must—

(a) call on the financial guarantee or the parent or affiliate company guarantee in terms of subregulation (5) and (6);
(b) request the financial institution or parent or affiliate company to deposit the funds into the closure rehabilitation trust contemplated in regulation 10(1)(a); and
(c) release the financial guarantee or parent or affiliate company guarantee to the financial institution within 21 days of receipt of confirmation that the funds have been disbursed into the account contemplated in paragraph (b).

(4) Following a call on the financial guarantee or parent or affiliate company guarantee contemplated in subregulation (3)(a), should the holder provide an alternative arrangement which is to the satisfaction of the Minister–

(a) if the funds have already been paid by the financial institution or parent or affiliate company, the funds must be returned to the financial institution or parent or affiliate company within 21 days of approval of the holder's alternative arrangement, unless such funds have already been disbursed by the Minister in carrying out the rehabilitation obligation of the holder; or
(b) if the funds have not yet been paid by the financial institution or parent or affiliate company, the Minister must release the fund guarantee within 21 days of a satisfactory alternative arrangement having been made by the holder.

(5) In the event that the Minister wishes to initiate a claim against the financial guarantee or parent or affiliate company guarantee to give effect to the rehabilitation obligation on behalf of the holder, the Minister must provide the holder, the financial institution, parent or affiliate company, the liquidator or business rescue practitioner with written notice of the intention to initiate a claim, which notice must include-

(a) the reasons for such claim; and
(b) an instruction that the holder, the parent or affiliate company, liquidator or business rescue practitioner provide to the Minister a plan indicating the measures to be taken to mitigate and rehabilitate the environmental damage, providing actions and timeframes for implementing such actions, within 60 days of receiving the notification.

(6) Subject to compliance with subregulation (5), the Minister may initiate a claim on a financial guarantee or parent or affiliate company guarantee in order to effect the rehabilitation obligation on behalf of the holder where-

(a) the holder has become subject to an order of court placing him/her/it in or under sequestration or liquidation whether voluntary or compulsory, provisional or final; or
(b) the holder, liquidator or business rescue practitioner has–

(i) ceased carrying out the operations in respect of which the financial guarantee or parent or affiliate company guarantee was issued for the period of at least a year;

(ii) failed to commence or execute its rehabilitation obligations as described in any document prepared in terms of these Regulations, despite having been given notice that it is required to do so;
(iii) failed to provide a satisfactory plan as contemplated in subregulation (5)(b), or has failed to execute such plan; or

(c) the holder has failed to provide a satisfactory alternative arrangement for financial provisioning as contemplated in subregulation (2)(b).

(7) Should the Minister not receive such plans or be dissatisfied with the measures proposed in accordance with subregulation (4)(b), the Minister must institute the claim and the funds as identified, must be called on.

(8) When the Minister has called on the financial guarantee or parent or affiliate company guarantee, the financial institution or parent or affiliate company must deposit the funds so called upon into the closure rehabilitation trust contemplated in regulation 10(1)(a), within 30 days.

(9) The Minister must, after having given effect to the rehabilitation obligation of the holder contemplated in regulation 5, within 1 year from the date of payment of a guaranteed sum by the guarantor or parent or affiliate company and each year thereafter, give account, in reasonable detail, to the guarantor or parent or affiliate company and National Treasury of how the guaranteed sum, or portion thereof, was utilised and once completed, return any portion of the guaranteed sum which was not so utilised to the guarantor or parent or affiliate company.

Claiming against a closure rehabilitation company or a closure rehabilitation trust to effect mitigation and rehabilitation

14. (1) In the event that the Minister wishes to initiate a claim against the closure rehabilitation company or the closure rehabilitation trust contemplated in regulation 10(1)(a) and (b) to effect the rehabilitation obligation of the holder contemplated in regulation 4, the Minister must provide the holder and the directors or trustees or the liquidator or business rescue practitioner with written notice of the intention to initiate a claim, which notice must include-

(a) the reasons for such claim; and
(b) a request that the holder, liquidator or business rescue practitioner provide to the Minister a plan indicating the measures to be taken to mitigate and rehabilitate the environmental damage, providing activities and timeframes for implementing such actions, within 60 days of the written notification.

(2) Should the Minister not receive such plan or be dissatisfied with the measures proposed in accordance with subregulation (1)(b), the Minister must-

(a) order the directors, trustees, liquidator or business rescue practitioner of the closure rehabilitation company or closure rehabilitation trust to deposit an identified amount into the closure rehabilitation trust administered by the Minister contemplated in regulation 10(1)(a) to enable the Minister to utilise the funds so deposited to give effect to the rehabilitation obligation of the holder contemplated in regulation 4, on behalf of the holder; or
(b) give effect to the rehabilitation obligation of the holder contemplated in regulation 4 and claim the costs from-

(i) the closure rehabilitation company or the closure rehabilitation trust through the directors, trustees, liquidator or business rescue practitioner; or
(ii) the funds from the holder's contribution to the closure rehabilitation trust administered by the Minister for the purposes of the holder's financial provision.

(3) When ordered to do so by the Minister, the directors, trustees, liquidator or business rescue practitioner must deposit the funds into the closure rehabilitation trust contemplated in regulation 10(1)(a) within 21 days of the date of receipt of such order.

(4) The Minister must, after having given effect to the rehabilitation obligation of the holder contemplated in regulation 4 and having considered the funds required for the mitigation, rehabilitation and management of latent environmental damage, within 1 year from the date of payment of the funds, and each year thereafter, give account, in reasonable detail, to the directors, trustees, liquidator or business rescue practitioner and National Treasury, of how the funds, or portion thereof, was utilised and once completed, return any portion which was not utilised to the closure rehabilitation company or closure rehabilitation trust.

Withdrawal against a financial provision to facilitate decommissioning and final closure activities

15. (1) No holder may withdraw funds, or allow funds to be withdrawn, against the financial provision set aside in the financial vehicles contemplated in regulation 10(1)(a), (b) or (c) unless—

(a) an application by the holder to withdraw funds is made to the Minister;
(b) the withdrawal is required to facilitate decommissioning and final closure activities, as identified in the approved final rehabilitation, decommissioning and mine closure plan contemplated in regulation 8(1)(i)(bb);
(c) the withdrawal application is made within the 10 year period immediately preceding the intended date scheduled for final closure of the operations identified in the approved final rehabilitation, decommissioning and mine closure plan contemplated in regulation 8(1)(i)(bb);
(d) withdrawals are limited to one application per financial year;
(e) the withdrawal application is based on proof of –
  (i) mitigation and rehabilitation having been achieved in the form of, amongst others, survey reports, photographs and satellite imagery as identified in the approved final rehabilitation, decommissioning and mine closure plan signed off by an independent specialist; and
  (ii) financial expenditure on mitigation and rehabilitation in the previous year in relation to the approved final rehabilitation, decommissioning and mine closure plan, in the form of audited reports of expenditure against the mitigation and rehabilitation;
(f) such withdrawal has been approved by the Minister; and
(g) the holder notifies National Treasury within 21 days of receiving approval to withdraw the funds.

(2) No funds may be withdrawn from the amount set aside for the management of latent impacts contemplated in regulation 8(1)(i)(cc).

Responsibility of an applicant or holder to consult and disclose information

16. (1) An applicant contemplated in regulation 7(1), 7(5), 8(1) and 8(5) must subject the documentation contemplated in those subregulations to the consultation requirements as prescribed in the Environmental Impact Assessment Regulations.

(2) Within 5 days of receiving notification of the review decision of the documents contemplated in regulation 11(4)(b), the holder, except a holder contemplated in regulation 7(1)(e) and (f), must publish the outcome of such a review decision in a provincial newspaper as well as a newspaper distributed within the municipal area within which the reconnaissance, prospecting, mining, production or exploration operation is located, and indicate where the reviewed and revised template, spreadsheet, plans, report and calculations can be obtained.

(3) The holder, business rescue practitioner or liquidator must inform the Minister and the Minister responsible for the environment within five days of-

(a) filing a resolution to go into business rescue, with the Companies and Intellectual Property Commission, in terms of section 129(2)(b) of the Companies Act, 2008 (Act No. 71 of 2008) in the case of voluntary business rescue or from date of an application being made to the Court in terms of section 131(1) of the Companies Act, 2008 (Act No. 71 of 2008); or
(b) filing a resolution for the winding up of the company, with the Companies and Intellectual Property Commission, in terms of section 80(2) of the Companies Act, 2008 (Act No. 71 of 2008), in the case of a voluntary winding up of the company or from date that an application has been made to the Court for the winding up of a company by the Court, in terms of section 81(1) of the Companies Act, 2008 (Act No. 71 of 2008).

(4) An applicant or holder must make the documents contemplated in regulation 7(1) and (2), regulation 8(1)(i) and (2)(a), regulation 11(4)(b) and (c) and regulation 12(2)(c), once submitted to the Minister—

(a) available on a publicly accessible website of the holder if such a website exists;
(b) available at the site office of the reconnaissance, exploration, prospecting, mining or production operation; and
(c) accessible to the public on request.

(5) The documents contemplated in subregulation (4) as well as any reviews thereof must remain on the website and be made available at the site office.

Powers and duties of the Minister

17. (1) If the Minister is not satisfied with the preparation of a template, spreadsheet, plan, report, calculation or a review or adjustment of the financial provision or an audit required in terms of these Regulations, the Minister may—

(a) request the applicant or holder, at their own costs to—
  (i) review and revise such a template, spreadsheet, plan, report, calculation, review, adjustment or audit to the satisfaction of the Minister; or
  (ii) have a template, spreadsheet, plan, report, calculation, review, adjustment or audit reviewed and revised externally by other/alternative independent specialists to the satisfaction of the Minister; or
(b) appoint an independent specialist or specialists at the cost of the applicant or holder to confirm, review or revise any template, spreadsheet, plan, report, calculation, review, adjustment or audit to the satisfaction of the Minister, in consultation with the applicant or holder.

(2) The Minister must keep a register of funds kept in the closure rehabilitation trust contemplated in regulation 10(1)(a), including details of the amount held per applicant and holder related to permissions, permits, rights and environmental authorisations.

(3) The Minister must—

(a) acknowledge receipt of all templates, spreadsheets, plans, reports and findings of reviews and assessments submitted in terms of these Regulations within 10 days of receipt thereof; and
(b) where a decision is required in terms of these Regulations, make such decision within 60 days of receipt of the documentation.

(4) Where a template, spreadsheet, plan, report, calculation, assessment or withdrawal application is rejected, the Minister must provide reasons for the rejection and indicate a timeframe not exceeding 45 days within which a revised template, spreadsheet, plan, calculation, assessment or withdrawal application must be resubmitted for approval.

CHAPTER 4

TRANSITIONAL ARRANGEMENTS

Transitional arrangements

18. (1) Where a–

(a) mining permit contemplated in regulation 7(1)(c) or regulation 8(1)(a) was applied for prior to or after 20 November 2015 but before the coming into effect of these Regulations; or
(b) prospecting right or exploration right contemplated in regulation 7(1)(d) or (e) or regulation 8 (1)(b) or (d) was applied for prior to 20 November 2015;

regardless when such permit or right was obtained, and such permit or right is still valid when these Regulations come into effect, the requirements related to financial provisioning contained in such permit or right remain in place and must be complied with until that permit or right expires.

(2) Where a prospecting right or exploration right contemplated in regulation 7(1)(d) or (e) was applied for after 20 November 2015 but before the coming into effect of these Regulations and obtained and such right is still valid when these Regulations come into effect, the holder of such right must–

(a) review and revise the financial provision determined in terms of the Financial Provisioning Regulations, 2015, in order to re-assess the calculations of such determined financial provisioning, by using the prescribed template, spreadsheet and master rates for implementing the activities associated with progressive rehabilitation, decommissioning and mine closure and the management of latent environmental impacts contemplated in regulation 7; and
(b) where necessary, adjust the financial provision set aside or demonstrate that sufficient financial provisioning has already been set aside, should that be the case.

(3) The review and re-assessment contemplated in subregulation (2) must be undertaken by independent specialists.

(4) The results of the review and re-assessment contemplated in subregulation (3), including proof of payment or arrangements to provide for any adjustments to the financial provision, must be—

(a) audited by an independent auditor;

(b) included in any environmental audit report required in terms of the Environmental Impact Assessment Regulations, 2014; and
(c) submitted by such holder for approval to the Minister in the form of an auditor's report, together with the completed template and spreadsheet—

(i) within one year of the commencement of the operations authorised in the right, where commencement has not yet occurred; or
(ii) where the operations authorised in such a right have commenced and where such holder–

(aa) is a person with a financial year, within 3 months of its financial year end following the date of coming into effect of these Regulations (amendments); or
(bb) is not a person with a financial year, within 3 months of the effective date of the right;

whereafter the provisions of regulations 11 and 12 will apply for as long as the right remains valid.

(5) Where a prospecting right or exploration right contemplated in regulation 8(1)(b) or (d) was applied for after 20 November 2015 but before the coming into effect of these Regulations, and obtained, and such right is still valid when these Regulations come into effect, the holder of such right must determine the financial provision as required by regulation 8(1), which determination has been undertaken by independent specialists, using the calculation methodology contemplated in Appendix 5 to these Regulations, provide proof of payment or arrangement, whichever applies, and submit the documents contemplated in regulation 8(4) to the Minister for approval–

(a) within one year of the commencement of the operations authorised in the right, where commencement has not yet occurred; or
(b) where the operations authorised in such a right have commenced and where such holder–

(i) is a person with a financial year, within 3 months of its financial year end following the date of coming into effect of these amendments; or
(ii) is not a person with a financial year, within 3 months of the effective date of the right;

whereafter the provisions of regulations 11 and 12 will apply until the right expires.

(6) A holder contemplated in subregulation (2) or (5) shall, until the period contemplated in (4) or (5) as the case may be, be regarded as having complied with the provisions of these Regulations if such holder has complied with the provisions and arrangements regarding financial provisioning approved as part of the right issued in terms of the Mineral and Petroleum Resources Development Act.

(7) Unless subregulation (8) applies, a holder who applied for a mining right or production right contemplated in regulation 8(1)(c) or (e) prior to or after 20 November 2015, but prior to the coming into effect of these Regulations, regardless when the right was obtained—

(a) must, by no later than 3 months following its next financial year end, which financial year end occurs after 19 September 2023, determine the financial provision as required by regulation 8(1), which determination has been undertaken by independent specialists, using the calculation methodology contemplated in Appendix 5 to these Regulations, provide proof of payment or arrangement, whichever applies, and submit the documents contemplated in regulation 8(4) to the Minister for approval; and
(b) shall, until the 3 month period contemplated in paragraph (a), be regarded as having complied with the provisions of these Regulations if such holder has complied with the provisions and

arrangements regarding financial provisioning, approved as part of the right issued in terms of the Mineral and Petroleum Resources Development Act.

(8) A holder of an offshore oil or gas production right contemplated in regulation 8(1)(e), who applied for such right prior to or after 20 November 2015 but prior to the coming into effect of these Regulations, regardless when the right was obtained—

(a) must by no later than 3 months following its next financial year end, which financial year end occurs after 19 February 2024, determine the financial provision as required by regulation 8(1), which determination has been undertaken by independent specialists, using the calculation methodology contemplated in Appendix 5 to these Regulations, provide proof of payment or arrangement, whichever applies, and submit the documents contemplated in regulation 8(4) to the Minister for approval; and
(b) shall, until the 3 month period contemplated in paragraph (a), be regarded as having complied with the provisions of these Regulations if such holder has complied with the provisions and arrangements regarding financial provisioning, approved as part of the right issued in terms of the Mineral and Petroleum Resources Development Act.

(9) A holder contemplated in subregulation (7) or (8) must, following the approval of the documents contemplated in subregulation (7) or (8), annually comply with the review requirements contemplated in regulation 11 and every 5 years with the auditing requirements contemplated in regulation 12.

(10) Subject to subregulations (1) to (9), financial provision submitted in terms of regulations 53 and 54 of the Mineral and Petroleum Resources Development Regulations, 2004 or the Financial Provisioning Regulations, 2015 for which approval is pending when these Regulations take effect, must be dispensed with in terms of regulations 53 and 54 the Mineral and Petroleum Resources Development Regulations, 2004 or the Financial Provisioning Regulations, 2015 as if those Regulations are still in effect.

(11) If a holder contemplated in subregulation (2), (5), (7), (8) or (16) is not able to increase the financial provision to cover any identified shortfall or must transition to another financial vehicle in order to do so, the Minister may, after considering the financial stability and operating history of such holder, enter into a payment agreement or arrangement with such holder for a period not exceeding 5 years to bring the financial provision in line with the requirements of these Regulations, on condition that—

(a) a payment plan or agreement and timeframe is agreed upon between the Minister and relevant holder;
(b) the payment plan or agreement and timeframe contemplated in paragraph (a) is consulted with interested and affected parties;
(c) the payment plan or agreement and timeframe contemplated in paragraph (a) is supported by the Minister of Finance;
(d) the payment plan or agreement contemplated in paragraph (a) is reviewed annually and compliance with the requirements and timeframe of the plan is demonstrated; and
(e) the approved sustainable end state and the funding of the latent liability is not compromised.

(12) The Minister may request any information that may be relevant to the decision on the payment plan or agreement contemplated in subregulation (11) from the holder.

(13) The payment plan or agreement contemplated in subregulation (11), as well as any indication of compliance with such plan or agreement, must be included in the annual review and assessment of the

adequacy of the financial provision and must be submitted together with the plans and reports as required in terms of these Regulations.

(14) The holder is required to make the payments or arrangements as agreed to in subregulation (11)(a) within the agreed timeframes.

(15) A holder contemplated in regulation 7(2) or 8(2) that obtained consent in terms of section 102 of the Mineral and Petroleum Resources Development Act to amend or vary the prospecting right, exploration right or mining permit contemplated in regulation 7(1)(c) to (e) or regulation 8(1)(a), (b) or (d) which right or permit is still valid when these Regulations come into effect, must comply with the requirements related to financial provisioning contained in such right or permit, as amended or varied, until that right or permit expires.

(16) A holder contemplated in regulation 8(2) that obtained consent in terms of section 102 of the Mineral and Petroleum Resources Development Act to amend or vary the mining right or production right contemplated in regulation 8(1()(c) or (e), which right is still valid when these Regulations come into effect–

(a) must, by no later than 3 months following its next financial year end, which financial year end occurs after 19 September 2023, or in the case of an offshore oil or gas production right, after 19 February 2024, determine the financial provision as required by regulation 8(1), which determination has been undertaken by independent specialists, using the calculation methodology contemplated in Appendix 5 to these Regulations, provide proof of payment or arrangement, whichever applies, and submit the documents contemplated in regulation 8(4) to the Minister for approval; and

(b) shall, until the 3 month period contemplated in paragraph (a), be regarded as having complied with the provisions of these Regulations if such holder has complied with the provisions and arrangements regarding financial provisioning, approved as part of the right, as amended or varied, issued in terms of the Mineral and Petroleum Resources Development Act.

(17) A holder contemplated in subregulation (16) must, following the approval of the documents contemplated in subregulation (16), annually comply with the review requirements contemplated in regulation 11 and every 5 years with the auditing requirements contemplated in regulation 12.

CHAPTER 5

GENERAL MATTERS

Offences

19. (1) An applicant commits an offence if that person contravenes or fails to comply with regulation 4, 7, 8, 9(2), 10(1), 16(1), 16(4) or 16(5) of these Regulations.

(2) A holder commits an offence if that person contravenes or fails to comply with regulation 4, 5(2), 5(3), 9(1), 9(3), 9(5), 9(6), 9(7), 9(8), 10(1), 10(3), 10(4), 10(5), 10(7), 10(8), 11(1), 11(2), 11(3), 11(4), 12, 13(2), 15(1), 15(2), 16(2), 16(3), 16(4), 16(5), 18(2), 18(3), 18(4),18(5), 18(7), 18(8), 18(9), 18(13), 18(14), 18(15), 18(16) or 18(17) of these Regulations.

(3) A financial institution, parent or affiliate company, a liquidator or business rescue practitioner contemplated in these Regulations commits an offence if that parent or affiliate company, or person contravenes or fails to comply with regulation 13(1), 14(3) or 16(3).

(4) A trustee or director of a closure rehabilitation company or closure rehabilitation trust commits an offence if the trustee or director contravenes or fails to comply with regulation 10(6) or 14(3).

Penalties

20. A person convicted of an offence in terms of regulation 19 of these Regulations, is liable to a fine not exceeding R10 million or to imprisonment for a period not exceeding 10 years, or to both such fine or such imprisonment.

Repeal of Financial Provisioning Regulations, 2015

21. The Financial Provisioning Regulations, 2015, as amended by Government Notice No. 1314, Government *Gazette* No. 40371 of 26 October 2016, Government Notice No. R452, Government Gazette No. 41584 of 20 April 2018, Government Notice No. 991, Government *Gazette* No. 41921 of 21 September 2018, Government Notice No. 24, Government *Gazette* No. 42956 of 17 January 2020, and Government Notice No. 495, Government *Gazette* No. 44698 of 11 June 2021 is hereby repealed.

Short title and commencement

22. These Regulations are called the Financial Provisioning Regulations, 2022 and comes into operation on the date of publication in the *Gazette*.

APPENDIX 1

MINIMUM CONTENT OF AN ANNUAL REHABILITATION PLAN FOR OPERATIONS CONTEMPLATED IN REGULATION 8

1. General

The annual rehabilitation plan must use as its base the findings of the assessment, modelling and monitoring undertaken in the preparation of the final rehabilitation, decommissioning and mine closure plan as contained in Appendix 2.

The annual rehabilitation plan, which must focus on progressive rehabilitation and mitigation, could form a chapter in the final rehabilitation, decommissioning and mine closure plan contemplated in Appendix 2.

Any reference to mining in this plan includes prospecting, exploration, mining and production operations contemplated in regulation 8(1).

Funds to implement the activities of the annual rehabilitation plan must be made available through the operational budget of the holder.

2. Objective of the annual rehabilitation plan

The objective of the annual rehabilitation plan is to—

2.1. review progressive mitigation and rehabilitation activities already implemented;
2.2. establish mitigation and rehabilitation goals and outcomes for the forthcoming 12 months, which contribute to the progressive achievement of the closure objective and post-mining sustainable end state as identified in the final rehabilitation, decommissioning and mine closure plan;
2.3. establish a plan, schedule and budget for mitigation and rehabilitation activities for the forthcoming 12 months based on the calculated costs;
2.4. identify gaps in knowledge and research to be undertaken to address shortcomings experienced in the preceding 12 months of mitigation and rehabilitation;
2.5. provide an overview of the monitoring results and effect of the mitigation and rehabilitation activities;
2.6. highlight any risks emerging from monitoring; and
2.7. identify knowledge gaps which impact on achieving the end state and the interventions, including research interventions to address the gaps.

3. Content of the annual rehabilitation plan

The annual rehabilitation plan will be relevant for a period of 12 months, after which the plan is to be updated to reflect progress relating to mitigation and rehabilitation activities in the preceding 12 months and the updated extraction and rehabilitation schedules as well as the budget for the forthcoming 12 months. The annual rehabilitation plan must contain information that defines progressive mitigation and rehabilitation activities for the forthcoming 12 months and how these relate to the operations' closure vision and sustainable end state, as detailed in the final rehabilitation, decommissioning and mine closure plan. The annual rehabilitation plan must indicate what closure objectives and criteria are being achieved through the implementation of the plan, it must be measurable and auditable and must include—

3.1. details of the—
  3.1.1. specialist or specialists that prepared the plan;
  3.1.2. professional registrations and experience of the specialist or specialists;
  3.1.3. applicant or holder, including but not limited to the name, physical address, postal address and contact details;
  3.1.4. timeframes of implementation of the current, and review of the previous mitigation and rehabilitation activities;
3.2. the pertinent environmental and project context highlighting issues which are different to those indicated and considered in the final rehabilitation, decommissioning and mine closure plan which relate directly to the planned annual mitigation and rehabilitation activity (e.g. drought, machine failure or anomaly);
3.3. the results of modelling of impacts for the preceding 12 months with a view to informing mitigation and rehabilitation activities going forward;
3.4. an identification of activities not undertaken and targets not met in the rehabilitation experienced in the preceding 12 months;
3.5. any risk which materialised or anomalies which impacted on the environment over the preceding 12 months, and how these were incorporated into the risk model for the operations;
3.6. details of the planned progressive mitigation and rehabilitation activities or measures for the forthcoming 12 months, including those which will address the shortcomings contemplated in paragraph 3.4 above or which address the risk which materialised or were identified from monitoring in the preceding 12 months, and including—
  3.6.1. if no areas are available for progressive rehabilitation concurrent with mining, an indication to that effect and motivation why no progressive rehabilitation can be undertaken;
  3.6.2. where areas are available for progressive rehabilitation the following information must be tabulated;
    3.6.2.1. the nature or type of activity and associated infrastructure to be undertaken;
    3.6.2.2. planned remaining life of the activity and impact under consideration;
    3.6.2.3. area already disturbed or planned to be disturbed in the period under review;
    3.6.2.4. percentage of the area already disturbed, including the bulking factor and volume of material stockpiled;
    3.6.2.5. percentage of the area to be disturbed and the anticipated bulking factor and volume of material for stockpiling;
    3.6.2.6. area and volume of material available for progressive mitigation and rehabilitation activities;
    3.6.2.7. percentage of the area disturbed and volume of material identified in paragraph 3.6.2.4 above and on which progressive mitigation and rehabilitation activities can be undertaken;
    3.6.2.8. notes to indicate why total available or planned to be available area differs from area already disturbed or planned to be disturbed;
    3.6.2.9. notes to indicate why progressive rehabilitation will not be undertaken on the full available or planned to be available area;
    3.6.2.10. the pertinent closure objectives and performance targets that will be addressed in the forthcoming 12 months of operations, which objectives and targets are aligned to the final rehabilitation, decommissioning and mine closure plan;
    3.6.2.11. details of mitigation and rehabilitation activities planned on the area the forthcoming 12 months;

3.6.2.12. description of the relevant closure design criteria adopted in the annual mitigation and rehabilitation activities and the expected final sustainable end state of land once all mitigation and rehabilitation activities are complete for the activity or aspect;

3.7. a site plan indicating at least the total area disturbed, area available for rehabilitation and the area to be rehabilitated per aspect or activity;

3.8. a review of the preceding 12 months of mitigation and rehabilitation activities, indicating a comparison between activities planned in the previous year's annual mitigation and rehabilitation plan and actual mitigation and rehabilitation implemented, which should be tabulated and as a minimum contain—

3.8.1. area planned to be rehabilitated during the period under review;

3.8.2. actual area rehabilitated; and

3.8.3. if the variance between planned and actual exceeds 15%, motivation indicating reasons for the inability to rehabilitate the full area; and

3.9. costing, based on market related figures, including—

3.9.1. an explanation of the closure cost methodology;

3.9.2. auditable calculations of costs per activity or infrastructure;

3.9.3. cost assumptions; and

3.9.4. monitoring and maintenance costs likely to be incurred during the period of execution of the progressive rehabilitation.

APPENDIX 2

MINIMUM CONTENT OF A FINAL REHABILITATION, DECOMMISSIONING AND MINE CLOSURE PLAN FOR OPERATIONS CONTEMPLATED IN REGULATION 8

1. General

The process of preparing the final rehabilitation, decommissioning and mine closure plan is an iterative process which must annually check that the planned closure objectives are in line with sustainability principles and will achieve an agreed sustainable end state. The calculation of costs associated with the final rehabilitation, decommissioning and mine closure must be based on the rehabilitation and environmental management of the full extent of the area disturbed and must be expressed as an annual figure based on the rate of extraction and extent of current disturbance.

The costs associated with the final rehabilitation, decommissioning and mine closure pronounces on the sustainability of the mine in the case of a greenfield operation or the continued sustainability of an existing operation. The calculated annual cost associated with final rehabilitation, decommissioning and mine closure is to be used in the calculation of the financial provision to be set aside as per Appendix 4 or 5.

Any reference to mining in this plan includes operations contemplated in regulation 8(1).

2. Objective of the final rehabilitation, decommissioning and mine closure plan

The objective of the final rehabilitation, decommissioning and mine closure plan, at design, throughout the operations and post-closure, is to—

2.1. determine, review and revise as required, a sustainable end state for the mining operation which includes a sustainable and achievable post mining economy, as well as sustainable post-closure management and monitoring measures;
2.2. set, review and revise sustainable end state objectives including water quality and general environmental quantity objectives;
2.3. ensure early and regular consultation throughout the life of the mine, with government and external stakeholders and communities on closure objectives and the sustainable end state objectives;
2.4. predict and model the mining activities throughout the life of the mine;
2.5. assess and model the expected environmental impacts related to the mining operations based on the life of mine, the mineral extraction schedule and applying and explaining a risk based approach and hierarchy linked to closure activities;
2.6. determine, review and revise the mitigation and rehabilitation activities related to the sustainable end state of the environment and post mining economy at closure and post-closure;
2.7. determine an overall cost for implementing the mitigation, rehabilitation and management activities;
2.8. determine the annual budget and schedule for the implementation of the mitigation, rehabilitation and management activities;
2.9. audit and report on the implementation of the plan; and
2.10. identify knowledge gaps and propose actions to actively address the identified gaps through among others, applicable research.

3. Content of the final rehabilitation, decommissioning and mine closure plan

The final rehabilitation, decommissioning and mine closure plan must be measurable and auditable, must use as a base the identified sustainable end state objectives of the area and must include—

3.1. details of—
  3.1.1. the person or persons that prepared the plan;
  3.1.2. the professional registrations and experience of the person or persons who prepared the plan;
  3.1.3. the applicant or holder, including but not limited to the name, physical address, postal address and contact details;
3.2. the context of the project, including but not limited to—
  3.2.1. mineral/s to be or being mined, mining method, area already mined or to be mined in the case of a greenfields site, the backlog in rehabilitation if relevant, annual extraction rate, overall extraction rates, life of mine and any material information and issues that have guided the development of the plan;
  3.2.2. an overview of—
    3.2.2.1. the environmental context, including but not limited to air quality, quantity and quality of surface and groundwater, land, soils, terrestrial and aquatic biodiversity;
    3.2.2.2. the social context that may influence closure activities and post-mining land use or be influenced by closure activities and post-mining land use; and
    3.2.2.3. other mining activities within a 20km radius of the mining area;
3.3. stakeholder issues and comments that have informed the plan;
3.4. the mining plan and schedule for the full approved operations, including—
  3.4.1. appropriate description of the mine plan;
  3.4.2. drawings and figures to indicate how the mine develops;
  3.4.3. what areas are disturbed and will be disturbed; and
  3.4.4. how infrastructure and structures (including ponds, residue stockpiles etc.) develop during operations;
3.5. details of the preferred sustainable end state of the operations including—
  3.5.1. the legal and governance framework and interpretation of these requirements for the closure design principles;
  3.5.2. a description of the sustainable end state and post mining economy to be achieved, objectives and targets, which objectives and targets must reflect the local environmental and socio-economic context, the regulatory and corporate requirements and stakeholder expectations;
  3.5.3. a description and evaluation of alternative closure and post-closure options where these exist, that are practical within the socio-economic context; and
  3.5.4. environmental opportunities and constraints in which the operation is located;
3.6. findings of an environmental risk assessment and modelling process leading to the most appropriate closure strategy, including—
  3.6.1. a description of the risk assessment methodology including risk identification and quantification, to be undertaken for all areas of infrastructure or activities or aspects for which an applicant and holder has a responsibility to mitigate an impact or risk at closure;
  3.6.2. an identification of receptors most sensitive to potential risks and the monitoring of such risks with a view to informing mitigation and rehabilitation activities;
  3.6.3. an identification and modelling of conceptual closure strategies to avoid, manage and mitigate the impacts and risks;

3.6.4. a reassessment of the risks to determine whether, after the implementation of the closure strategy, the latent risk has been avoided and / or how it has resulted in avoidance, rehabilitation and management of impacts and whether this is acceptable to the mining operation and stakeholders; and

3.6.5. an explanation of changes to the risk assessment results, as applicable in annual updates to the plan; and

3.6.6. design principles for achieving the closure objectives, including the proposed final sustainable end state which is appropriate, feasible and possible to implement and which meets the principles of sustainable development, including—

3.6.6.1. descriptions of appropriate and feasible final post-mining land use for the project area;

3.6.6.2. a map of the proposed final sustainable end state of the land;

3.6.6.3. a motivation for the preferred closure option within the context of the risks and impacts that are being mitigated;

3.6.6.4. a definition and motivation of the closure and post-closure period, taking cognisance of the probable need to implement post-closure monitoring and maintenance for a period sufficient to demonstrate that the risk threshold criteria have been achieved; and

3.6.6.5. details associated with any ongoing research on closure options and post mining economy options;

3.6.7. closure actions, including—

3.6.7.1. a detailed description of the assumptions made to develop closure actions in the absence of detailed knowledge on site conditions, potential impacts, material availability, stakeholder requirements and other factors for which information is lacking;

3.6.7.2. the development and documenting of a description of specific technical solutions related to infrastructure and facilities for the preferred closure option, which must include all areas, infrastructure, activities and aspects associated with mining for which the mine has the responsibility; and

3.6.7.3. the development and implementation of plans to address threats and opportunities and any uncertainties associated with the proposed closure actions, which will be used to identify and define any additional work or research that is needed to reduce the level of uncertainty;

3.6.8. a schedule of actions for the annual rehabilitation plan, and the final rehabilitation, decommissioning and mine closure plan which will ensure mitigation, rehabilitation and management of impacts including ongoing pumping and treatment of extraneous water—

3.6.8.1. linked to the mining work programme, if greenfields, or to the current mine plan, if brownfields, including assumptions and schedule drivers; and

3.6.8.2. including a spatial map, showing planned spatial progression throughout operations;

3.6.9. an indication of the organisational capacity that will be put in place to implement the plan, including—

3.6.9.1. organisational structure as it pertains to the plan;

3.6.9.2. responsibilities; and

3.6.9.3. training and capacity building that may be required to build closure competence;

3.6.10. an indication of gaps in the plan, including an auditable action plan and schedule to address the gaps;

3.6.11. closure and risk threshold criteria for each activity or infrastructure in relation to environmental aspects with auditable indicators;

3.6.12. the closure cost based on cost estimates for operations, or components of operations as follows—

3.6.12.1. costing, calculated using market related figures and the current value of money and no discounting or net present value calculations;

3.6.12.2. costs must be calculated for the rehabilitation, maintenance and long term monitoring being undertaken on all disturbed areas and associated environmental impacts;

3.6.12.3. costs calculations must be based on rehabilitation, maintenance and long term monitoring of activities undertaken by a third party;

3.6.12.4. where appropriate, a differentiation between capital, operating, replacement and maintenance costs;

3.6.12.5. the closure cost estimation must include cost assumptions and auditable calculations of costs per activity or infrastructure; and

3.6.12.6. cost estimates for operations, or components of operations as follows:

End of life of operation (or components of operation) from year of assessment	**Design effort**	**Degree of accuracy in cost estimation**
> 30 years	Pre-Conceptual / Class 5 Estimate / up to 2% of complete definition	-50% to + 50%
10 to 30 years	Conceptual / Pre-feasibility / Class 4 Estimate / up to 15% of complete definition	-30% to + 30%
5 to 10 years	Preliminary / Feasibility / Class 3 Estimate / up to 40% of complete definition	-20% to + 20%
Less than 5 years	Detailed Designs / Bid / Tender / Class 2 estimate up to 75% of complete definition	-10% to + 10% (or less)
* The calculations for operations with 5 or less years must include a line item for carrying out specialist studies up to Detailed Design effort to improve the degree of accuracy to +/-10% as well as a contingency to ensure sufficient funds for closure by a third party. Motivation must be provided to indicate the accuracy in the reported number and as accuracy improves, what actions resulted in an improvement in accuracy.		

3.6.13. the estimated costs must be expressed for each year based on the rate of extraction and extent of disturbed area;

3.6.14. the risk modelling and the calculation of closure cost estimation must be updated annually during the operation's life to reflect known developments, including changes from the annual review of the closure strategy assumptions and inputs, scope changes, the effect of a further year's inflation, new regulatory requirements and any other material developments;

3.6.15. monitoring, auditing and reporting requirements contemplated in these Regulations;

3.6.16. schedule of reporting requirements contemplated in these Regulations; and

3.6.17. motivations for any amendments made to the final rehabilitation, decommissioning and mine closure plan, given the monitoring results in the previous auditing period and the identification of gaps as above.

APPENDIX 3

MINIMUM CONTENT OF AN ENVIRONMENTAL RISK ASSESSMENT REPORT FOR THE DETERMINATION OF LATENT LIABILITY FOR OPERATIONS CONTEMPLATED IN REGULATION 8

1. General

The environmental risk assessment report must follow an iterative risk profiling approach which through modelling must predict environmental risk, identify their potential to manifest, the timeframes in which they will manifest and the costs associated with their management and rehabilitation once the impacts have manifest. The risk assessment process must calculate a risk threshold for the operations and predict the time period to reach the risk threshold.

The costs calculated for the management and monitoring of latent impacts prior to reaching the risk threshold for scheduled closure pronounce on the sustainability of mining in the case of a greenfields operation and on the continued sustainability in the case of an existing operation.

The assessment must calculate the cost associated with managing and monitoring latent impacts prior to reaching the risk threshold and must include a section on the costs to manage and monitor latent impacts in the event of an unscheduled closure implementing immediately available closure technologies including water treatment options. This cost is to be used in the calculation of the financial provision to be set aside as per Appendix 4 or 5.

The risk assessment report could form a chapter in the final rehabilitation, decommissioning and mine closure plan articulated in Appendix 2.

Any reference to mining in this plan includes operations contemplated in regulation 8(1).

2. Objective of the environmental risk assessment report

The objective of the environmental risk assessment report is to—

2.1 ensure the timeous prediction and quantification of environmental risk associated with the operations;
2.2 ensure timeous risk reduction through appropriate interventions;
2.3 identify the potential latent environmental risks which will manifest post-closure;
2.4 detail the approach to managing post-closure risks;
2.5 quantify the potential risks and liabilities associated with the management of the risks;
2.6 the quantification must be based on market related costs;
2.7 calculate a risk threshold and timeframe in which to reach the risk threshold; and
2.8 outline and cost the post-closure monitoring, auditing and reporting requirements.

3. Part 1

Content of the environmental risk assessment report for scheduled closure

The environmental risk assessment report must contain information that is necessary to determine the potential financial liability associated with the management of latent environmental liabilities post-closure,

keeping in mind the proposed sustainable end state of land, once the initial risk threshold criteria has been achieved and must include—

3.1. details of—
- 3.1.1. the person or persons that prepared the plan;
- 3.1.2. the professional registrations and experience of the person or persons who prepared the plan;
- 3.1.3. the applicant or holder including but not limited to: name; physical address; postal address, contact details; and
- 3.1.4. rights, permits, licences and authorisations associated with the operation including the right or permit number, environmental authorisation number, and similar details of all other authorisation received e.g. water use licence, waste management licence, etc.

3.2. details of the assessment process used to identify and quantify the post-closure and possible latent risks, including—
- 3.2.1. a description of the risk assessment methodology inclusive of risk identification and quantification;
- 3.2.2. substantiation why each risk will occur post-closure, including why the risk was not or could not be mitigated during progressive mitigation and rehabilitation or during the implementation of the final rehabilitation, decommissioning and mine closure plan;
- 3.2.3. a detailed description of the drivers that could result in the manifestation of the risks after closure;
- 3.2.4. a description of the expected timeframe in which the risk is likely to manifest, typically as expected years after closure, and the duration of the impact, including motivation to support these timeframes;
- 3.2.5. a detailed description of the triggers which can be used to identify that the risk is imminent or has manifested, how this will be measured and any cost implications thereof;
- 3.2.6. results and findings of the risk assessment or risks which will occur post-closure; and
- 3.2.7. an explanation of changes to the risk assessment results as applicable in annual updates to the plan;

3.3. management activities, including—
- 3.3.1. monitoring of results and findings, which informs adaptive or corrective management and/or risk reduction activities;
- 3.3.2. an assessment of alternatives to mitigate or manage the impacts once the risk has become manifested, which must be focussed on practicality as well as cost of the implementation;
- 3.3.3. motivation why the selected alternative is the appropriate approach to mitigate the impact; and
- 3.3.4. a detailed description of how the alternative will be implemented; and

3.4. calculation of costs for implementing the activities to manage and monitor latent impacts until the agreed risk threshold is reached using market related figures and the current value of money and no discounting or net present value calculations which must—
- 3.4.1.1. include costs to determine whether the risk is imminent or has manifest are to be included in the assessment as there are monitoring costs likely to be incurred during the implementation of the strategy to manage or mitigate the impacts once the risk has become manifest;
- 3.4.1.2. be based on the management, mitigation, rehabilitation, maintenance and long term monitoring of activities undertaken by a third party;

3.4.1.3. be calculated for the management, mitigation, rehabilitation, maintenance and long term monitoring of latent impacts for all disturbed areas and associated environmental impacts;

3.4.1.4. include the costs for the management, mitigation, rehabilitation, maintenance and long term monitoring of activities for latent impacts must include cost assumptions and auditable calculations of costs per activity or infrastructure;

3.4.1.5. include the risk modelling and the calculation of post-closure cost estimation must be updated annually during the operation's life to reflect known developments, including changes from the annual review of the closure strategy assumptions and inputs, scope changes; and

3.4.1.6. include the cost estimates for modelling and calculating the post-closure costs must be calculated using accuracy estimations as follows:

End of life of operation (or components of operation) from year of assessment	**Design effort**	**Degree of accuracy in cost estimation**
> 30 years	Pre-Conceptual / Class 5 Estimate / up to 2% of complete definition	-50% to + 50%
10 to 30 years	Conceptual / Pre-feasibility / Class 4 Estimate / up to 15% of complete definition	-30% to + 30%
5 to 10 years	Preliminary / Feasibility / Class 3 Estimate / up to 40% of complete definition	-20% to + 20%
Less than 5 years	Detailed Designs / Bid / Tender / Class 2 estimate up to 75% of complete definition	-10% to + 10% (or less)
*The calculations for operations with 5 or less years must include a line item for carrying out specialist studies up to Detailed Design effort to improve the degree of accuracy to +/-10% as well as a contingency to ensure sufficient funds for closure by a third party. Motivation must be provided to indicate the accuracy in the reported number and as accuracy improves, what actions resulted in an improvement in accuracy.		

4. Part 2

Content of the environmental risk assessment report for unscheduled closure

For unscheduled closure, the contents of Part 1 - 3.1 to 3.3.4 (inclusive of 3.3.4) apply as well as the calculation of costs for implementing the activities to manage and monitor latent impacts until the agreed risk threshold is reached using market related figures and the criteria identified for scheduled closure based on—

4.1 an assessment of latent impacts for the current disturbed area as well as the disturbance for the next 12 months of operations; and

4.2 costs associated with the management, mitigation, rehabilitation and monitoring of latent impacts for the existing extent of the area disturbed until the risk threshold is reached based on costs for technologies immediately available, including water treatment technologies.

APPENDIX 4

METHODOLOGY FOR CALCULATION OF FINANCIAL PROVISION FOR NEW OPERATIONS CONTEMPLATED IN REGULATION 8

1. Application of the methodology

This methodology must be used to determine the funds to be set aside for rehabilitation, decommissioning, closure and post-closure activities associated with new prospecting, exploration, mining or production operations contemplated in regulation 8(1) and is calculated for the operational area.

Any reference to mining in this calculation methodology includes operations contemplated in regulation 8(1).

The costs include the costs associated with rehabilitation and management of impacts from:

1.1 the anticipated disturbance of the first year of mining operations; and
1.2 the latent impacts associated with the anticipated disturbance for the first year of mining operations.

2. Assumptions made for purposes of calculating

2.1 A third party will be employed to undertake mitigation and rehabilitation work;
2.2 All costs are based on actual market related figures based on prevailing rates;
2.3 Mining infrastructure asset salvage value has not been taken into account; and
2.4 Provisional and general costs and contingencies as per the industry standard are included.

3. Calculating the costs to be set aside for final rehabilitation, decommissioning and mine closure

In order to calculate the costs to be set aside for final rehabilitation, decommissioning and mine closure for a new mining operation contemplated in regulation 8(1), the following formula must be used:

Total 1+ Total 2 = sum x VAT.

Where:

Total 1 is – the costs calculated in the final rehabilitation, decommissioning and mine closure plan for the rehabilitation and impact management related to the disturbance that will occur in the first year of the operation; and

Total 2 is – the costs calculated in part 2 of the risk assessment report for the determination of latent liability, which are the costs calculated for the management and rehabilitation of latent impacts that are expected to manifest in the future based on an unscheduled closure on the anticipated disturbed area for the first year of operation.

Where a security in the form of a vehicle as contemplated in regulation 10(1) (b) or (c)has been provided under section 30 of the National Water Act, 1998 (Act No. 38 of 1998) such security may be deducted should there be evidence provided.

APPENDIX 5

METHODOLOGY FOR CALCULATION OF FINANCIAL PROVISION FOR EXISTING OPERATIONS CONTEMPLATED IN REGULATION 8 AND 18

1. Application of the methodology

1.1 This methodology must be used to determine the funds to be set aside for rehabilitation, decommissioning, closure and post-closure activities associated with an existing prospecting, exploration, mining or production operation contemplated in regulation 8 and regulation 18 and is calculated for the operational area.

1.2 Any reference to mining in this calculation includes operations contemplated in regulation 8(1).

1.3 The costs include the costs associated with rehabilitation and management of impacts from:

1.3.1 the current disturbed area;
1.3.2 the anticipated disturbance of the next year of mining operations; and
1.3.3 the latent impacts associated with current disturbed area, the anticipated disturbance of the next year of mining operations.

2. Assumptions made for purposes of calculating

2.1 A third party will be employed to undertake mitigation and rehabilitation work;
2.2 All costs are based on actual market related figures based on prevailing rates;
2.3 Mine infrastructure asset salvage value has not been taken into account; and
2.4 Provisional and general costs and contingencies as per the industry standard are included.

3. Calculating the costs to be set aside for final rehabilitation, decommissioning and mine closure

In order to calculate the costs to be set aside for final rehabilitation, decommissioning and mine closure for an existing operation, the following formula must be used:

Total 1+ Total 2 + Total 3 = sum x VAT.

Where:

Total 1 is – the costs calculated in the final rehabilitation, decommissioning and mine closure plan for the rehabilitation and impact management for the current disturbed area;

Total 2 is – the costs calculated in the final rehabilitation, decommissioning and mine closure plan for the rehabilitation and impact management related to the disturbance that will occur in the next 12 months of the operation; and

Total 3 is – the costs calculated in part 2 of the environmental risk assessment report contemplated in Appendix 3 for the determination of latent liability, which are the costs calculated for the management and rehabilitation of latent impacts that are expected to manifest in the future based on an unscheduled closure on the current disturbed area as well as the disturbance for the next year of operation.

Where a security in the form of a vehicle as contemplated in regulation 10(1) (b) or (c) has been provided under section 30 of the National Water Act, 1998 (Act No. 38 of 1998) such security may be deducted should there be evidence provided.

APPENDIX 6

MINIMUM REQUIREMENTS FOR A CLOSURE REHABILITATION COMPANY OR A CLOSURE REHABILITATION TRUST

1. General

The founding documents of a closure rehabilitation company or a closure rehabilitation trust, hereafter referred to as the "company or trust", contemplated in these Regulations must comply with the requirements set out in this Appendix and must as a minimum include—

1.1 details of the—
- 1.1.1 holder for which the company or trust is being set up; and
- 1.1.2 trustee(s) or director(s) who will administer the company or trust, including the names and identification information;

1.2 the Minister being identified as the first beneficiary and the holder being identified as the second beneficiary of the company or trust;

1.3 the permission, right or permit number to which the company or trust relates;

1.4 the obligation of the holder, namely to mitigate and rehabilitate environmental damage as identified in these Regulations;

1.5 the sole objective of the company or trust, namely to receive contributions and to hold these contributions for the purposes of providing the vehicle contemplated in regulation 10(1) (a) and (b) of these Regulations, for maintaining the financial provision required to be set aside by the holder for the guaranteeing of funds for the purposes of fulfilling the holder's obligation to mitigate and rehabilitate environmental damage;

1.6 an indication that—
- 1.6.1 the provisions of the founding documents of the company or trust may only be varied with written approval of the holder and the Minister and on condition that the objective of the company or trust and obligation of the holder is not varied in any way;
- 1.6.2 the trustee(s) and director(s) shall not receive any remuneration from the company or trust for their services, unless the trustee or director is a professional fiduciary services company, in which event it may be paid its normal commercial rates for the provision of professional services; and
- 1.6.3 no person may be a trustee or director if he or she would not be eligible to be a director of a company under the Companies Act, 2008 (Act No. 71 of 2008), or has been convicted of any offence involving dishonesty;

1.7 the duties and obligations of the trustee or director, which must include as a minimum—
- 1.7.1 the duty to not allow any funds to be withdrawn from the company or trust or in any form be alienated from the company or trust, other than if such withdrawal has been approved by the Minister in terms of these Regulations;
- 1.7.2 the obligation to pay out funds from the trust where the Minister has initiated a claim, contemplated in regulation 14, against a holder's financial provision held in the company or trust;
- 1.7.3 the obligation to pay out funds from the company or trust when ordered by the Minister to do so after the procedures set out in these Regulations have been complied with; and
- 1.7.4 that such trustee or director—
  - 1.7.4.1 shall not, in their personal capacity, engage in any trade, undertaking or business of the company or trust, nor shall any such trustee or director participate in any of the affairs of the company or trust, or provide any financial assistance or services or facilities other than is required to fulfil their role as trustee or director;

1.7.4.2 shall cause proper books of account to be kept for the company or trust and shall appoint independent auditors to report on the financial statements for each financial year of the company or trust;

1.7.4.3 shall not be permitted to distribute, except as may otherwise be provided herein, any of the funds of the company or trust to any person and shall utilise the company or trust solely for investment in accordance with the object for which the company or trust has been established;

1.7.4.4 shall not be entitled, on behalf of the company or trust, to—

1.7.4.4.1 incur any indebtedness of any nature (including through the use of any negative mark to market position in relation to any derivative instrument) save for non-interest bearing trade credit incurred in the ordinary course of the business of the company or trust; or

1.7.4.4.2 encumber the assets of the company or trust in any manner whatsoever; and

1.8 an indication that the company or trust may only hold financial instruments issued to the holder by any—

1.8.1 collective investment scheme as regulated in terms of the Collective Investment Schemes Control Act, 2002 (Act No. 45 of 2002);

1.8.2 long-term insurer as regulated in terms of the Long-term Insurance Act, 1998 (Act No. 52 of 1998);

1.8.3 bank as regulated in terms of the Banks Act, 1990 (Act No. 94 of 1990);

1.8.4 mutual bank as regulated in terms of the Mutual Bank Act, 1993 (Act No. 124 of 1993); or

1.8.5 sphere of government in the Republic.

APPENDIX 7

TEMPLATE FOR A FINANCIAL GUARANTEE

(FINANCIAL INSTITUTION'S LETTERHEAD)

MINISTER RESPONSIBLE FOR MINERAL RESOURCES (or his/her successor)

.....

.....

.....

.....

Permission, right or permit number: _____

Sir

DEMAND GUARANTEE FOR THE COMPLIANCE WITH THE STATUTORY OBLIGATION RELATED TO DETERMINING AND MAKING OF FINANCIAL PROVISION FOR OPERATIONS CONTEMPLATED IN REGULATION 7 AND 8

1. In relation to the responsibility, in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and/or replaced from time to time, ("the Act"),..... (the "holder") is required to determine and provide the prescribed financial provision to undertake mitigation and rehabilitation of environmental damage caused by operations contemplated in regulation 7, 8 and 11, to the satisfaction of the Minister in accordance with the provisions of the Financial Provisioning Regulations, 2022, promulgated in terms of the Act, or any legislation or subordinate legislation which supplements, amends and/or replaces such regulations or deals with similar or related matters for such operations known as .....and situated at (*give full description of property*) ..... or any applicable part thereof (the "Mine"), and we, (full name of the authorized signatory) and .....and .....(full name of the authorised signatory), in our capacity as .....(designation) and .....(designation) duly authorised representatives of the bank / financial institution as Guarantor, confirm that the aggregate maximum amount of R..... (.....) (the "Guaranteed Sum") is available to the Minister for the purpose of executing the mitigation and rehabilitation actions identified in plans used to determine the prescribed financial provision for such operations contemplated in the Financial Provisioning Regulations, 2022, or any legislation or subordinate legislation which supplements, amends and/or replaces such Regulations.

2. Subject to compliance by the Minister with the requirement to give notice as contained in regulation 13(5) of the Financial Provisioning Regulations, 2022, or any legislation or subordinate legislation which supplements, amends and/or replaces such Regulations, and in a manner contemplated in such Regulations, the Guarantor hereby unconditionally undertakes, as a principal obligation, to pay to the Minister the Guaranteed Sum, or any portion thereof, by no later than 30 days after receipt of a written claim from the Minister (or made on behalf of the Minister) to do so.

3. A claim under this guarantee in the circumstances contemplated in the Financial Provisioning Regulations, 2022 or any legislation or subordinate legislation which supports, amends and/or replaces such Regulations, may be instituted by the Minister at any stage commencing from the date of signature of this guarantee and must be delivered to the Guarantor, together with the original guarantee document, or by complying with paragraph 5 if the original guarantee document is lost, at the Guarantor's address as provided herein.

4. Where relevant, this guarantee is issued as a replacement of Guarantee No. _____ issued by _____ (the Guarantor) on _____ for the amount of R _____ and does not create any further obligations for the Guarantor other than set out in this replacement guarantee. Guarantee No.____ is null and void from the date of issue of this replacement guarantee (scrap if not applicable).

5. This guarantee is not negotiable nor transferable, and—
   5.1 must be returned to the Guarantor when making a claim under this guarantee, or if the original guarantee document has been lost, must be accompanied by a statement that the applicable document cannot be located and that you indemnify the Guarantor against any direct loss that it may suffer (other than as a result of its own negligent or willful act or omission) as a direct result of such original document not being returned to it;
   5.2 shall lapse—
      (a) after the financial institution has paid out the Guaranteed Sum, should the Minister call on the guarantee, or;
      (a) on the granting of a closure certificate in terms of the Mineral and Petroleum Resources Development Act in respect of the whole of the operations; or
      (c) on replacement with an alternative financial vehicle or replacement guarantee, where relevant; or
      (d) on the lapsing of the notice period contemplated in regulation 13(1) of the Financial Provisioning Regulations, 2022, or any legislation or subordinate legislation which supplements, amends and/or replaces such Regulations; and
   5.3 shall not be construed as placing any other responsibility on the Guarantor other than the paying of the Guaranteed Sum or any portion thereof.

6. The Guarantor reserves the right to withdraw from this guarantee after having given the holder, the Minister and the Minister responsible for environmental affairs at least 6 months' written notice in advance, which must be hand delivered to facilitate signing of acceptance of such notice to the Minister or his/her delegated authority/official of his/her/its intention to do so.

7. The Guarantor will pay on demand under this guarantee without regard to any claim or dispute of any nature which any party may allege.

8. This Guarantee shall be governed by the laws of the Republic of South Africa. The courts of the Republic of South Africa shall have sole jurisdiction.

Yours faithfully

.....	.....
(SIGNATURE)	**(SIGNATURE)**
.....	.....
(NAME)	**(NAME)**
.....	.....
(DESIGNATION)	**(DESIGNATION)**
Who hereby warrants his/her authority	**Who hereby warrants his/her authority**

ADDRESS:.....

.....

.....

.....

DATE: .....

PLEASE NOTE:

(1) No amendments and/or additions to the terms or conditions of this guarantee will be accepted.

(2) The address of the addressee of this guarantee must be stated clearly.

(3) This guarantee must be returned to:

.....

.....

DEPARTMENT OF FORESTRY, FISHERIES AND THE ENVIRONMENT

NO. 2273 **11 July 2022**

NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998)

PROPOSED REGULATIONS PERTAINING TO THE EXPLORATION AND PRODUCTION OF ONSHORE OIL AND GAS REQUIRING HYDRAULIC FRACTURING

I, Barbara Dallas Creecy Minister of Forestry, Fisheries and the Environment, hereby consult on the intention to make regulations pertaining to the exploration and production of onshore oil and gas requiring hydraulic fracturing under sections 44(1)(a) and (1)(aA), read with sections 24(5)(b)(x) and 24(5)(h) of the National Environmental Management Act, 1998 (Act No. 107 of 1998) in the Schedule hereto.

Members of the public are invited to submit written comments or input, within 45 days after the publication of this notice in the *Gazette*, to any of the following addresses:

By post to: Department of Forestry, Fisheries and the Environment
The Director-General
Attention: Dr Dee Fischer
Private Bag X447
PRETORIA
0001

By hand at: Reception, Environment House, 473 Steve Biko Road, Arcadia, Pretoria.

By e-mail: dfischer@dffe.gov.za

Any inquiries in connection with the notice can be directed to Dr Dee Fischer at dfischer@dffe.gov.za or (012)399 8843.

Comments or input received after the closing date may not be considered.

BARBARA DALLAS CREECY
MINISTER OF FORESTRY, FISHERIES AND THE ENVIRONMENT

SCHEDULE

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CHAPTER 1

DEFINITIONS, PURPOSE AND APPLICATION OF THESE REGULATIONS

Definitions

1. In these Regulations, any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned, and unless the context indicates otherwise—

"API standard" means the relevant American Petroleum Institute Standards;

"applicant" means a person who applies for an exploration right or a production right in terms of the Mineral and Petroleum Resources Development Act, 2002 which intends to utilise hydraulic fracturing technology;

"base line monitoring" means the monitoring of key indicators to establish reference conditions of the potentially affected environment prior to hydraulic fracturing to form the basis for determining a change over time;

"base line monitoring plan" means the plan identified in regulation 7(1)(b);

"care and maintenance" means a condition where a production well is taken out of service temporarily with the intention to reuse the well at a later date, but the well is managed to ensure it remains in a safe and stable condition and all legislative requirements are adhered to;

"closure certificate" means the certificate contemplated in section 43 of the Mineral and Petroleum Resources Development Act, 2002;

"decision making authorities" means the authorities responsible for considering applications for rights, permits, authorisations, approvals, consents and licences contemplated in regulation 6(h);

"decommissioning" means the planned shutdown of an exploration or production well with the plugging of wells, removal of well equipment, production tanks and associated installations, site rehabilitation and monitoring and where relevant the final decommissioning and closure of the exploration or production operation;

"designated agency" means the agency designated in terms of section 70 of the Mineral and Petroleum Resources Act, 2002 namely the Petroleum Agency South Africa;

"environmental authorisation" means the authorisation by a competent authority for a listed activity or specified activity required in terms of section 24 of the National Environmental Management Act, 1998 (Act No. 107 of 1998);

Environmental Impact Assessment Regulations" means the regulations published in terms of sections 24(5) and 44 of the Act;

"exploration right" means a right contemplated in section 80 of the Mineral and Petroleum Resources Development Act, 2002 and for which no closure certificate has been issued;

"flow back" means hydraulic fracturing fluid and other fluids that return to the surface after hydraulic fracturing has been completed and prior to the well being placed into production;

"Financial Provisioning Regulations" means the regulations pertaining to the rehabilitation and remediation of environmental damage caused by reconnaissance, prospecting, exploration, mining or production operations, promulgated under sections 44(1)(aE), (aF), (aG), (aH) read with sections 24(5)(b)(ix), 24(5)(d), 24N, 24P and 24R of the National Environmental Management Act, 1998 (Act No. 107 of 1998);

"heritage resources permit" means a permit issued in terms of section 48 of the National Heritage Resources Act, 1999 (Act No. 25 of 1999);

"holder" means a person who holds an exploration or production right issued in terms of the Mineral and Petroleum Resources Development Act, 2002;

"hydraulic fracturing" means a well stimulation technique in which rock is fractured by a pressurized liquid or gas, which process involves the high-pressure injection of fracturing fluids or gas into a wellbore to create microfractures or fractures in the deep-rock formations through which natural gas, petroleum and brine will flow more freely;

"Karoo Central Astronomy Advantage Area" means the area declared in terms of the Astronomy Geographic Advantage Act; 2007 (Act No. 21 of 2007) published under Government Notice No. 198 in Government *Gazette* No. 37434 of 12 March 2014;

"latent environmental impacts" means impacts which are existing and defined, but not yet developed and will manifest post-closure;

"liquid waste" means water that has been contaminated with waste products from the hydraulic fracturing operation that can pass through a 0.45-micron filter at a pressure differential of 0,5MPa;

"Mineral and Petroleum Resources Development Act, 2002" means the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002);

"minimum information requirements" means the:

- minimum information requirements for the submission of applications for an authorisation, right, permit or licence for the onshore exploration of oil and gas intending to utilise hydraulic fracturing; and
- minimum information requirements for the submission of applications for an authorisation, right, permit or licence for the onshore exploration of oil and gas utilising hydraulic fracturing;

"Minister" means the Minister responsible for mineral resources;

"municipal wellfield" means a groundwater resource used by water services institutions to provide water supply services as defined in the Water Services Act, 1997 (Act No. 108 of 1997) and includes future potential identified water resources;

"National Water Act, 1998" means the National Water Act, 1998 (Act No. 36 of 1998);

"national web based environmental screening tool" means the online spatial application contemplated in the Environmental Impact Assessment Regulations available at https://screening.environment.gov.za/screeningtool;

"petroleum" has the meaning assigned to it in the Mineral and Petroleum Resources Development Act, 2002;

"process water" means all water related to exploration and production, including flow back, produced water and contaminated storm-water;

"produced water" means water, regardless of chloride and total dissolved solids content, that is produced in conjunction with oil or natural gas production or natural gas storage operations;

"production right" means a right contemplated in section 84 of the Mineral and Petroleum Resources Development Act, 2002 and for which no closure certificate has been issued;

"production well" means a well drilled for the purpose of producing petroleum;

"SANAS" means the South African National Accreditation System;

"spring" means a point where subsurface water emerges at surface, usually as a result of topographical, lithological or structural controls;

"stimulation" means artificial means such as hydraulic fracturing, re-fracturing, gasification, depressurisation, acidising, oxidising or other techniques, in an effort to increase the flow of oil and gas from a well;

"the Act" means the National Environmental Management Act, 1998 (Act No. 107 of 1998);

"waste" has the meaning assigned to it in the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) and includes flow back, fluids, and process water as well as well drilling waste;

"watercourse" has the meaning assigned to it in the National Water Act, 1998;

"water use license" means a water use licence issued in terms of section 40 of the National Water Act, 1998 for the exploration or production of onshore oil or gas requiring hydraulic fracturing;

"well" means a drilled hole used for the purpose of exploration or production of petroleum resources; and

"well engineer" means an engineer in the field of mining or mechanical engineering involved in either the design, construction or maintenance of exploration or production wells, with a minimum of five years experience in the field/discipline in question, who has the appropriate accreditation from the relevant institution.

Purpose of these Regulations

2. The purpose of these Regulations is to—

(a) identify and prohibit certain activities related to the exercising of an exploration or production right for onshore oil and gas requiring hydraulic fracturing;
(b) identify geographical areas in which it is prohibited to exercise an exploration or production right for onshore oil and gas requiring hydraulic fracturing;
(c) set general and specific requirements, practises and standards for the identification, assessment, avoidance and management of environmental impacts associated with all phases of exploration and production of onshore oil and gas requiring hydraulic fracturing;

(d) provide for the preparation and implementation of base line monitoring prior to the commencement of hydraulic fracturing;
(e) set general and specific requirements for ongoing environmental monitoring of hydraulic fracturing and production operations; and
(f) give effect to the coordination between decision making authorities of—

(i) requirements for base line monitoring, environmental assessments, public participation and environmental monitoring for the heritage resources permit, water use licence, environmental authorisation, and exploration or production right, through minimum information requirements;
(ii) timeframes for the submission of applications for permits, licences, rights and authorisations contemplated in paragraph (i);
(iii) timeframes for the consideration of the applications contemplated in paragraph (i);
(iv) the decision making process related to applications contemplated in paragraph (i); and
(v) conditions of approval.

Application of these Regulations

3. These Regulations apply throughout the Republic of South Africa to all exploration and production operations of onshore oil and gas intending to or utilising hydraulic fracturing.

CHAPTER 2

PROHIBITIONS

Prohibited Activities

4. The following activities when undertaken in terms of an exploration or production right for onshore oil and gas intending to or utilising hydraulic fracturing are prohibited:

(a) The use of potable water for any purpose in the hydraulic fracturing operation other than for drinking or domestic use and the preparation of the slurry for cement mixtures on which tests will be conducted;
(b) Discharge of process water without re-use and recycling at iterations as approved in the environmental authorisation contemplated in regulation 6(h)(iv);
(c) Discharge or disposal of hydraulic fracturing fluids, process water or any other component of process water–

(i) into a surface watercourse;
(ii) to a government water treatment works; or
(iii) to underground, including the use of re-injection disposal wells;

(d) The disposal of sludge to landfill with a water content of >40% or that liberates moisture under pressure in landfill conditions and which has not been stabilised by treatment;
(e) The storage of process water for reuse or disposal in pits or pollution control dams;
(f) The storage of drill cuttings, sludge and waste other than in above ground tanks or leakproof skips;

(g) The care and maintenance of exploration wells beyond eighteen months after pressure testing has ceased;
(h) The use of monitoring boreholes for abstraction; and
(i) The abandonment of wells without decommissioning.

Prohibited areas

5. Hydraulic fracturing is prohibited within–

(a) heritage sites declared in terms of the National Heritage Resources Act, 1999 (Act No. 25 of 1999);
(b) protected areas contemplated in section 9(a), (b), (c) and (d) of the National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003);
(c) the Karoo Central Astronomy Advantage Area;
(d) two kilometres of any government waterworks, including dams with a safety risk;
(e) two kilometres from the edge of an existing or proposed municipal wellfield, including its aquifer, water supply borehole and groundwater supply infrastructure;
(f) two kilometres from the edge of any strategic water source area as identified on the national web based environmental screening tool; and
(g) two kilometres from the edge of a thermal or cold spring, including seismically active springs.

CHAPTER 3

EXPLORATION OR PRODUCTION FOR ONSHORE OIL AND GAS

Environmental obligation of an applicant for or holder of an exploration or production right

6. Every applicant for or holder of an exploration or production right has an obligation to—

(a) identify, assess, avoid, mitigate, manage and monitor all possible environmental impacts that may arise from exercising an exploration or production right for onshore oil and gas anticipating or requiring hydraulic fracturing, to ensure that potential environmental impacts are avoided, where possible, or mitigated to ensure sustainability;
(b) determine the pre-hydraulic fracturing base line conditions through the preparation of a base line monitoring plan for approval by the competent authority submitted as part of the application for environmental authorisation;
(c) through assessment, determine the possible changes to the pre-hydraulic fracturing conditions and the severity of the changes, identify mitigation measures and report on the acceptability of the changes in the documentation submitted as part of the application for environmental authorisation;
(d) during the execution of the exploration or production right for onshore oil and gas anticipating or requiring hydraulic fracturing, monitor any changes to environmental attributes and determine and report on the associated risk through ongoing monitoring and reporting;
(e) ensure that all materials used and procedures adhere to international best practises and standards;

(f) decommission all exploration and production wells, rehabilitate the area used for exploration and production, monitor the continued integrity of the decommissioning and rehabilitation and report on the findings through auditing procedures;
(g) provide funding for the decommissioning, rehabilitation and closure of the exploration and production operations as prescribed in the Financial Provisioning Regulations;
(h) be in possession of the following relevant rights, permits, authorisations, approvals, consents and licences prior to the exercising of an exploration or production right:

(i) an exploration right issued in terms of the Mineral and Petroleum Resources Development Act, 2002;
(ii) a production right issued in terms of the Mineral and Petroleum Resources Development Act, 2002;
(iii) a heritage permit issued in terms of section 48 of the National Heritage Resources Act, 1999 (Act No. 25 of 1999);
(iv) an environmental authorisation issued in terms of section 24 of the National Environmental Management Act, 1998 (Act No. 107 of 1998);
(v) a licence issued in terms of section 40 of the National Water Act, 1998;
(vi) approval from the Minister of the plans and the determination of financial provision as contemplated in the Financial Provisioning Regulations; and
(vii) the relevant municipal zoning consents; and

(i) meet the design, construction and testing standards identified in regulations 9, 10, 11 and 12 and Appendix 1.

Submission of applications and implementation of monitoring plans

7. (1) On acceptance of an application for an exploration right in terms of section 79 of the Mineral and Petroleum Resources Development Act, 2002, the applicant must submit to the relevant decision making authorities simultaneously—

(a) the applications contemplated in regulation 6(h)(iii), (iv) and (v);
(b) a consolidated environmental impact assessment report, an environmental management programme and an overall base line monitoring plan which comply with the *Minimum Information Requirements for the Submission of Applications for an Authorisation, Right, Permit or Licence for the Onshore Exploration of Oil and Gas Intending to Utilise Hydraulic Fracturing*; and
(c) the relevant plans, reports, templates and spreadsheets comtemplated in the Financial Provisioning Regulations.

(2) On commencement of the exploration operation contemplated in subregulation (1), the holder must commence with the implementation of the base line monitoring plan and continue the required monitoring for a period of no less than 24 months.

(3) Throughout the 24 months of base line monitoring contemplated in subregulation (2), the holder of the exploration right must provide the monitoring results in the form of a base line monitoring report, which complies with the monitoring requirements of the *Minimum Information Requirements for the Submission of Applications for an Authorisation, Right, Permit or Licence for the Onshore Exploration of Oil and Gas Intending to Utilise Hydraulic Fracturing* to the relevant decision making authorities at intervals as identified in the standard conditions contemplated in Appendix 3.

(4) On acknowledgment of an application for an environmental authorisation for hydraulic fracturing contemplated in activity 20A of the Environmental Impact Assessment Regulations Listing Notice 2 of 2014, the applicant must submit to the relevant decision making authorities simultaneously—

(a) the applications contemplated in regulation 6(h)(iii) and (v);
(b) a consolidated environmental impact assessment report considering the information from the base line monitoring report contemplated in subregulation (3);
(c) the environmental management programme, an operational environmental monitoring plan and waste management plan which complies with the *Minimum Information Requirements for the Submission of Applications for an Authorisation, Right, Permit or Licence for the Onshore Exploration and Production of Oil and Gas Utilising Hydraulic Fracturing*;
(d) an emergency and spill contingency plan; and
(e) the relevant templates, spreadsheets, plans and reports contemplated in the Financial Provisioning Regulations.

(5) On commencement of the hydraulic fracturing operation contemplated in subregulation (4), the holder must commence with the implementation of the operational environmental monitoring plan, the waste management plan contemplated in subregulation (4)(c) and the emergency and spill contingency plan contemplated in subregulation (4)(d).

(6) Throughout the hydraulic fracturing operation, the holder of the exploration right must provide operational environmental monitoring reports which comply with the monitoring requirements of the *Minimum Information Requirements for the Submission of Applications for an Authorisation, Right, Permit or Licence for the Onshore Exploration and Production of Oil and Gas Utilising Hydraulic Fracturing* to the relevant authorising authorities at intervals as identified in the standard authorising conditions contemplated in Appendix 3.

(7) On acceptance of the application for a production right in terms of section 83 of the Mineral and Petroleum Resources Development Act, 2002, the applicant must, submit to the relevant authorities simultaneously—

(a) the applications contemplated in regulation 6(h)(iii), (iv) and (v);
(b) a consolidated environmental impact assessment report which complies with the *Minimum Information Requirements for the Submission of Applications for an Authorisation, Right, Permit or Licence for the Onshore Exploration and Production of Oil and Gas Utilising Hydraulic Fracturing* considering the information from the base line monitoring report contemplated in subregulation (3) and the operational monitoring reports contemplated in subregulation (6);
(c) the environmental management programme, an operational environmental monitoring plan and waste management plan which complies with the *Minimum Information Requirements for the Submission of Applications for an Authorisation, Right, Permit or Licence for the Onshore Exploration and Production of Oil and Gas Utilising Hydraulic Fracturing*;
(d) an emergency and spill emergency plan; and
(e) the relevant templates, spreadsheets, plans and reports contemplated in the Financial Provisioning Regulations.

(8) On commencement of the exploration and production operation contemplated in this regulation the holder must commence with the implementation of the operational environmental monitoring plan, the

waste management plan contemplated in subregulation (7)(c) and the emergency and spill contingency plan contemplated in subregulation 7(d).

(9) Throughout the exploration or production operation, the holder of the exploration or production right must provide the monitoring results in the form of operational monitoring reports which comply with the monitoring requirements of the *Minimum Information Requirements for the Submission of Applications for an Authorisation, Right, Permit or Licence for the Onshore Exploration and Production of Oil and Gas Utilising Hydraulic Fracturing* to the relevant authorising authorities at intervals as identified in the standard authorising conditions contemplated in Appendix 3.

CHAPTER 4

HYDRAULIC FRACTURING FOR ONSHORE OIL AND GAS

Responsibility of the applicant or holder to meet standards

8. (1) An applicant or holder of an exploration or production right for onshore oil and gas intending to utilise hydraulic fracturing technology must meet the design, construction and testing standards identified in regulations 9, 10, 11, 12 and Appendix 1.

(2) Should the applicant or holder wish to deviate from a standard requirement identified in subregulation (1), the applicant or holder must submit for approval—

(a) a detailed design and explanation of the proposed alternative;
(b) a comparative technical assessment of the proposed alternative to that contemplated in Appendix 1; and
(c) an indication how the proposed alternative will provide a higher level of safety and environmental protection compared with those contemplated in Appendix 1.

(3) Should the applicant wish to deviate from the standard as contemplated in subregulation (1), the explanation and design contemplated in subregulation (2) must be submitted as part of the documentation required in regulation 7(4) and 7(7).

(4) Any deviation, motivation or comparative assessment contemplated in subregulation (2) must be prepared by a well engineer.

(5) Should a holder wish to deviate from the standard as contemplated in subregulation (1) after an environmental authorisation has been issued, an amendment of such environmental authorisation must be applied for in terms of Part 1 of Chapter 5 of the Environmental Impact Assessment Regulations, which application must include the explanation and design contemplated in subregulation (2) and which amendment must be approved prior to it being implemented.

Well design and construction

9. (1) All wells must be—

(a) designed by a certified well engineer and the certification of the well engineer must be displayed in the site office of the exploration or production operation; and

(b) designed, constructed and tested as contemplated in the standard for well design and construction contained in Appendix 1.

(2) The final well design, meeting the requirements of subregulation (1), must be included with the documents required as part of regulation 7(4) and (7).

(3) Centralisers must be designed and constructed in accordance with the standard contemplated in Appendix 1.

Cement requirements and compression tests

10. Standards contemplated in Appendix 1 apply to-

(a) all cement used in the operation; and
(b) compression tests.

Casing string tests

11. Casing string tests must be undertaken according to the standard as contemplated in Appendix 1.

Blowout prevention

12. (1) Blowout prevention equipment, which meet the standard as contemplated in Appendix 1, must be installed.

(2) An exemption from the need to install blowout prevention equipment as contemplated in subregulation (1) may be motivated if the applicant can demonstrate that—

(a) conditions under which the holder is operating does not require the installation of blow out prevention equipment as contemplated in subregulation (1); and
(b) the well control equipment to be installed to control kicks, prevent blowouts and ensure the safety of the well operations is sufficient not to require blowout prevention.

(3) Should a holder wish to be exempted from the need to install blowout prevention equipment as contemplated in subregulation (1) after the environmental authorisation has been issued, an amendment of such environmental authorisation must be applied for in terms of Part 1 of Chapter 5 of the Environmental Impact Assessment Regulations, which application must include the motivation as contemplated in subregulation (2) and which amendment must be approved before the exemption will be valid.

(4) When blowout prevention equipment is installed, tested, or in use, a well engineer must be present at the well site.

(5) Testing of blowout prevention equipment for a drilling or completion operation must take place prior to drilling below the last cemented casing seat.

(6) The holder must maintain a record of the pressure tests which contains the number and location of the well tested, the date of testing and the results signed off by the well engineer.

Well examination

13. (1) The results of the well examination tests must at all times demonstrate that the pressure boundary of the well is controlled throughout the life cycle of the well.

(2) A well file must be kept on site by the holder which identifies the—

a) coordinates of the well;
b) number of the well;
c) design of the well; and
d) pressure test results.

A holder's responsibility to gain the approval of designated agency

14. (1) Test data showing competency of a proposed cement mixture that meets the requirements of the current AI "API RP 10 B-2 Recommended Practises for Testing Well cements" must be submitted to the designated agency for approval 2 days prior to the commencement of the cementing operation.

(2) Prior to casting any well casings, the holder in collaboration with specialist contractors, must submit for approval a programme for cement placement operations.

(3) Prior to any hydraulic fracturing commencing, the holder is required to submit for approval by the designated agency-

(a) the results of casing string tests and the formation pressure integrity testing; and
(b) a well examination plan which includes-

(i) confirmation of groundwater and aquifer isolation;
(ii) measures to address fracture containment;
(iii) measures to manage seismicity risks;
(iv) details of hydraulic fracturing and process water management programme, including testing programmes and operations which expands on the plans contemplated in regulation 7;
(v) a programme for independent well examination; and
(vi) a programme for post-decommissioning monitoring which expands on the plans and reports contemplated in regulation 7(7)(e).

(4) The names of all drilling fluids must be submitted to the designated agency for approval prior to use.

A holder's responsibility to notify and provide information to the designated agency and the Minister responsible for water affairs

15. (1) Verification inspections are required for the following activities-

(a) setting a casing to facilitate a verification of the hydrostatic pressure and drift test;
(b) commencing with cementing of casings operations;
(c) undertaking casing string testing;
(d) formation pressure integrity testing;

(e) conducting a blowout prevention test; and
(f) mechanical integrity testing.

(2) In order to facilitate a designated agency verification inspection, a holder must notify the designated agency at least 5 days prior to undertaking an activity contemplated in subregulation (1).

(3) A copy of the well file which meets the requirements contemplated in regulation 13(2) must be submitted to the designated agency monthly for information purposes.

(4) The records and overall summary of the blowout prevention testing must be submitted to the designated agency for information within 5 days after the testing was undertaken.

(5) Records and overall summary of the mechanical integrity tests must be submitted to the designated agency for information within 5 days after the testing was undertaken.

(6) Records for mechanical integrity tests and monitoring must be submitted to the designated agency for information on a quarterly basis including-

(a) type and volumes of water sources for stimulation operations;
(b) volumes and rates of fracturing fluid pumped into the target zone; and
(c) volumes and release of flowback received during and after each stimulation.

(7) A holder must notify the designated agency and the Minister responsible for water affairs, in writing, at least fourteen days before commencing with hydraulic fracturing operations indicating the date of commencement.

(8) Within 30 days of fracturing a production well, the holder must submit to the designated agency and the Minister responsible for water affairs, a post hydraulic fracturing report which report must meet the requirements contemplated in Appendix 2.

CHAPTER 5

OPERATIONS AND MANAGEMENT

Management of operations

16. (1) A holder must appoint a well engineer to be responsible for the day-to-day management of the operation.

(2) Equipment used in hydraulic fracturing operations must be fit for purpose and must meet relevant standards as contemplated in Appendix 1.

(3) A holder may only commence with hydraulic fracturing operations after the designated agency has approved the requirements contemplated in regulation 14 and all the relevant rights, permits, authorisations, approvals, consents and licences contemplated in regulation 6(h) have been obtained.

(4) Hydraulic fracturing operations must be immediately suspended if an anomalous pressure or flow condition is occurring in a way that indicates that the mechanical integrity of the well has been compromised and that continued operations pose a risk to the environment.

(5) A holder must notify in writing, the designated agency and the Minister responsible for water affairs within one hour of suspending hydraulic fracturing as a result of circumstances contemplated in subregulation (4) relating to the mechanical integrity of the well or the risk to the environment.

(6) Remedial action must be undertaken immediately and the designated agency must be satisfied with the remedial actions prior to issuing a written consent for the recommencement of operations.

(7) The designated agency may only issue a written consent for recommencement of operations in the form of a recommencement letter as contemplated in subregulation (6) after consulting with the Minster responsible for water affairs.

Drilling fluids

17. (1) Drilling operations below shallow soils and local aquifers must be undertaken using air, water or water-based mud systems.

(2) Where it is unfeasible to use air, water or water-based mud systems for drilling below shallow soils and local aquifers, the proposed alternative drilling fluids, and the safety data sheets must be submitted to the designated agency for approval for their use before they may be used.

Powers and duties of the designated agency

18. (1) The designated agency must provide approvals or request additional information within 2 days of receiving information for approval.

(2) The designated agency may, where necessary, require—

(a) a specific cement mixture to be used in a well or an area if evidence of local conditions indicates that specific cement is necessary; or
(b) the installation of an additional cemented casing string or strings in the well.

(3) The designated agency may at the cost of the holder, appoint an independent and competent person to undertake well examination.

Disclosure of information

19. (1) All the assessment, monitoring and reporting information contemplated in regulation 7 must be uploaded to the website of the holder within 2 months of submission to the relevant authorities or within 1 month from approval and annually thereafter.

(2) Data collected through the reserve determination process, must be published on the website of the holder within 12 months of the issuing of the exploration or production right, except where it may be shown to directly relate to the availability of gas or petroleum's commercial value of the holder's acreage.

(3) A holder must upload on the website of the holder the following documentation regarding fracturing fluids as approved through the environmental authorisation as well as any additions or deviations as authorised by the designated authority during hydraulic fracturing operations:

(a) the hazard status of the substance;
(b) material safety data sheet information for substances;

(c) anticipated volumes of fracturing fluid, including proppant, base carrier fluid and each chemical additive to be used within the operation per year for a five year period;
(d) the trade name of each additive and its general purpose in the fracturing process;
(e) each chemical intentionally added to the base fluid, including the chemical abstracts service number, and if applicable the actual concentration to be used in percentage or by mass; and
(f) the possible risk of the chemicals and additives to the environment and water resources.

Well decommissioning and monitoring

20. (1) All exploration and production wells must be decommissioned within 60 days of final use.

(2) Wells must be decommissioned as contemplated in paragraph 11 of Appendix 1.

(3) The holder is required to prepare a final rehabilitation, decommissioning and closure plan for incorporation into the initial and ongoing reviews of the "final rehabilitation, decommissioning and closure plan" contemplated in the Financial Provisioning Regulations.

(4) Decommissioned wells must be monitored by the holder in compliance with the operational environmental monitoring plan which meets the requirements of regulation 7(4)(c) or 7(7)(c).

(5) The results of the monitoring must be submitted to the designated agency and the Minister responsible for water affairs on the first working day of each quarter, unless there are identified anomalies, spikes or exceedances of requirements, in which case such anomalies, spikes, or exceedances must be reported within 12 hours of identification.

Standard conditions of authorisation

21. (1) The standard conditions contemplated in Appendix 3, will apply to rights, permits, authorisations and licences identified in regulation 6(h)(i) to (v).

(2) Where the standard conditions must be augmented, relevant decision making authorities must coordinate the setting of additional authorisation conditions to avoid duplication and conflict between conditions.

CHAPTER 6

GENERAL

General

22. (1) Any water or air quality analysis must be undertaken by a third party using international or SANAS accredited facilities and according to national and international analytical methods.

(2) The results of the analysis must include as a minimum a detailed description of the sampling and testing conducted, including duplicate samples, the chain of custody of the sample and quality control of the testing.

(3) The holder must at any time, allow the Minister, the Department responsible for water resources or any government department or agency which administers any law relating to matters affecting the environment, access to the operation and any relevant documentation to conduct any activities associated with compliance monitoring and enforcement and independent verification.

(4) Raw data used for analysis must be tabulated, retained and made available at the request of any competent authority or stakeholder.

(5) The results of any pressure test or strength tests must be submitted to the designated agency within 7 days of the results being obtained;

(6) Where directed by the relevant decision making authority in the conditions of authorisation as contemplated in regulation 7 to do so, the holder must capture data generated into the relevant department's database.

(7) Waste containing radioactive materials must be managed in accordance with the National Radioactive Waste Disposal Institute Act, 2008 (Act No. 53 of 2008).

Offences

23. (1) An applicant commits an offence if that person contravenes or fails to comply with regulation 4, 5, 6, 7(1), 7(4), 7(7), 8, 9, 10, 11 and 12 of these Regulations.

(2) A holder commits an offence if that person contravenes or fails to comply with regulation 4, 5, 6, 7(2), 7(3), 7(5), 7(6), 7(8), 7(9), 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20 and 22 of these Regulations.

Penalties

24. A person convicted of an offence in terms of regulation 23 of these Regulations, is liable to a fine not exceeding R10 million or to imprisonment for a period not exceeding 10 years, or to both such fine or such imprisonment.

Short title and commencement

25. These Regulations are called the Onshore Hydraulic Fracturing Regulations, 2022, and come into operation on the date of publication in the Government *Gazette*.

APPENDIX 1

WELL CONSTRUCTION STANDARDS

1. General

(1) A holder must ensure that a well design is informed by a risk assessment, and is constructed, equipped, commissioned, operated, modified, maintained, suspended and decommissioned in a manner that provides for the control of the well at all times.

(2) The holder must plan for multi-well pads and horizontal drilling technologies in order to maximize the spacing between neighbouring wells and minimize cumulative surface impacts of the operation, where this is not possible the reasons must be documented in the documents supporting the application for environmental authorisation.

(3) Where an API standard is prescribed, the most current standard is to be used.

2. Objective of well design

The overall objective of a well design is to–

(a) isolate aquifer and permeable zones by employing environmentally protective well casings;
(b) protect potable groundwater and prevent the migration of polluted water into groundwater or the exploration or production well; and
(c) protect against casing deformation and cement degradation.

3. Well construction

(1) A well must be cased according to current industry standards published by the API"5CT Specification for Casing and Tubing" and the casing thread compound and the use must conform to the API RP 5A3.

(2) A casing installed must have a minimum yield pressure designed to withstand at least 1.2 times the maximum pressure to which the casing may be subjected during dripping, production hydraulic fracturing operations.

(3) Casings may not be–

(a) pitted, patched, bent, corroded, crimped;
(b) the threads may not be worn or damaged; and
(c) reconditioned.

(4) Casings must pass the approved hydrostatic pressure and drift test pursuant to API "5CT Specification for Testing and Tubing.

(5) Conductor casing must be set and cemented to a surface to-

(a) isolate shallow aquifers;
(b) stabilize unconsolidated sediments; and
(c) provide a base for equipment to divert shallow natural gas.

(6) Surface casings for exploration or production wells must be-

(a) set to a depth of 60m below the base of the deepest fresh water or at least 100m above the top of the expected petroleum bearing zone, whichever comes first;
(b) installed and be fully cemented to the surface where intermediate casings are not installed;
(c) centralised at the shoe, above and below a stage collar or diverting tool, and through fresh water zones;
(d) centralised in each segment of the wellbore to provide sufficient casing standoff and to foster effective circulation of cement to isolate aquifers, flow-zones, voids, lost circulation zones and hydrocarbon production zones; and
(e) cemented to a surface.

(7) Intermediate casings for exploration and production wells-

(a) must be set at least 30 m below the base of the unexpected deepest to protect unexpected fresh water found below the surface casing shoe;
(b) a production casing must be set and be fully cemented to 150m above the top of the perforated zone;
(c) where cementing to the surface is technically infeasible and may result in lost circulation or both, cement must be brought to a minimum of 180, above the shallowest fresh water zone encountered below the surface casing shoe;
(d) may not be used as a production string in the well in which it is installed;
(e) may not be perforated;
(f) the location and depths of petroleum bearing zones or fresh water zones that are open to the wellbore above the casing shoe, must be confirmed by coring, electric logs, testing or such data from an offset well on the same well pad.

(8) Casings must be centralised in each segment of the wellbore to provide sufficient casing standoff and foster effective circulation of cement to isolate critical zones including aquifers, flow-zones, voids, lost circulation zones and hydrocarbon production zones.

(9) In non-deviated holes, a pipe centraliser must be placed every fourth joint from the collar cement shoe to the ground surface or to the bottom of the collar.

(10) The designated agency may require additional centralisation where necessary in order to ensure the adequacy of the integrity of the well design.

(11) Centralisers must be designed in accordance with–

(a) API "10D, Specification for Bow-Spring Casing Centralisers and all rigid centralisers";
(b) API "10 TR 4 Considerations Regarding Selection of Centralisers for Primary Cementing Operations"; and
(c) API RP"10D-2, Recommended Practise for Centraliser Placement and Stop Collar Testing".

4. Cement requirements and compression testing

(1) Hydraulic fracturing operations must be isolated from freshwater and other permeable horizons by ensuring complete cement isolation in each casing annulus.

(2) Cementation of casings must be done by the pump and plug method with a minimum of 25% excess cement and appropriate loss circulation material.

(3) Cement placed in the well bore must meet the standards of API "10 A Specification for cements and materials for well cementing' or ASTM "C150/C150M Standard Specification for Portland Cement".

(4) Tests for cement mixtures for which published performance data is not available must be conducted on representative samples of the basic mixture of cement and additives used.

(5) Water used for preparing the slurry for the cement mixtures on which tests will be conducted as contemplated in paragraph (4) must be distilled water or potable tap water.

(6) Tests contemplated in paragraph (4) must be conducted using the equipment and procedures established in the API "RP 10 B-2 Recommended Practise for Testing Well Cements" and Foamed cement slurry must be prepared to minimise its free water content in accordance with API "RP 10B-4 Recommended Practise On Preparation and Testing of Foamed Cement Slurries at Atmospheric Pressure".

(7) The cement used for well construction must have a compressive strength of at least 8273.71kPa (1.200 psi) and the free water separation must be no more than 6 millilitres per 250 millilitres of cement, tested in accordance with the API TR 10TR3.

(8) Cement compressive strength tests must be performed on all cement that will be used in casing strings before its use to ensure that it meets the required strength as contemplated in paragraph (7) and where it does not comply with the standards, the tests must be redone.

(9) After the cement is placed behind the casing, time must be allowed for the cement to set until the cement achieves a calculated compressive strength of at least 3447.38 kPa (500psi) before the casing is disturbed in any way, including installation of a blow-out preventer.

(10) A holder must run a radial cement bond evaluation log and monitor the annular pressure to verify the cement bond on all casing strings and must carry out remedial cementing if the cement bond is not adequate for drilling ahead.

(11) A copy of the cement job log for a cemented casing string in the well must be maintained in the well file as submitted as required in regulation 15(3).

5. Casing string tests

(1) After the setting and cementing of a casing string, except the conductor casing, and prior to further drilling, the casing string must be tested with fresh water, mud, or brine to at least the maximum anticipated treatment pressure but no less than 1.512 kPa per 0.3048 meter (0.22 psi per foot) of casing string length or 1o 342.12 kPa (1,500 psi), whichever is greater, for a minimum of 30 minutes with less than a 5% pressure loss.

(2) The pressure test must not exceed 70% of the minimum internal yield and if the pressure declines more than 5%, or if there are other indications of a leak, corrective action must be taken before conducting further drilling and hydraulic fracturing operations.

(3) The actual pressure must not exceed the test pressure at any time during hydraulic fracturing operations.

(4) A hydraulic fracturing string used in the operations must be either strung into a production liner or run with a packer set at least 30 m below the deepest cement top and must be tested to not less than the maximum anticipated treating pressure minus the annulus pressure applied between the fracturing string and the production or immediate casing.

(5) The pressure test must be considered successful if the pressure applied has been held for a minimum of 30 minutes with no more than 5% pressure loss.

(6) The annulus between the hydraulic fracturing string and casing must be pressurised to a minimum of 1723.69 kPa (250 psi) and monitored.

6. Formation pressure integrity test

(1) A holder must, after a successful casing string test, conduct a formation pressure integrity test below the surface casing and below all intermediate casings.

(2) The actual hydraulic fracturing treatment pressure must not exceed the casing test pressure at any time during hydraulic fracturing operations.

7. Blowout prevention and pressure testing

(1) A holder must install blowout prevention equipment that meets the current API standard 53 for blowout equipment after setting the casing to shut-off a wellhead which must be supported and secured to prevent stresses on all connections unless an exemption as contemplated in regulation 12(2) and (3) has been obtained.

(2) Blowout prevention equipment installed at a well that may be subject to hydraulic fracturing must include a remote blowout prevention actuator that-

(a) is powered by a source other than rig hydraulics;
(b) is located as a minimum 20 meters from the well head; and
(c) has an appropriate related pressure equal to or greater than the induced hydraulic fracture pressure.

(3) Lines, valves and fittings between the blowout preventer and the remote actuator must be flame resistant and must have a working pressure rating higher than the maximum anticipated well heads surface pressure.

(4) Blowout prevention equipment must have 100% availability at all times;

(5) The blowout prevention equipment must be tested to 100% of related working pressure and the annular-type blowout preventer must be tested to 6894.76 kPa (1,000 psi) at the time of installation in accordance with current SPI standard 53 for blowout equipment.

(6) Blowout prevention equipment that has failed any pressure test must not be used until it is repaired and has passed the pressure test.

8. Mechanical integrity testing and monitoring

(1) The injection lines and manifold, associated valves, hydraulic fracturing head or tree and any other well head component or connection not previously tested must be tested with fresh water, mud or brine to at least the maximum anticipated treatment pressure for a minimum of 30 minutes with less than a 5% initial pressure loss.

(2) A record of the pressure test must be maintained.

(3) The pressure exerted on treating equipment including valves, lines, manifolds, hydraulic fracturing head or tree, casing and hydraulic fracturing string, if used, must not exceed 95% of the working pressure rating of the weakest component.

(4) A function-tested relief valve and diversion line must be installed and used to divert, flow from the hydraulic fracturing sting-casing annulus to an overhead tank in case of hydraulic fracturing string failure.

(5) The relief valve must be set to limit the annular pressure to no more than 95% of the working pressure rating of the casings forming the annulus.

(6) They hydraulic fracturing treatment pressure must not exceed the test pressure of any given component at any time during the hydraulic fracturing operations.

(7) During hydraulic fracturing, annulus pressure, injection pressure and the rate of injection must be continuously monitored and recorded.

(8) Micro-seismicity (in real time<5 minute delay) must be monitored by a long array of accelerometers located in an offset monitoring well, situated 100m or more away from the well at a comparable depth.

(9) Micro seismic sensors must be designed for temperatures between 175-200°C.

(10) Tiltmeter measurements must be taken with an array of tiltmeters either located in shallow offset wells (10m) at the site surface or in a more sensitive deep offset well comparable depth to fracturing depth and in the fracturing well which provides information on fracture orientation and direction.

(11) Downhole pressure sensors must be used to provide indirect measurements of fracture height, which are to be connected to the production casing as well as outer casings to monitor well integrity.

(12) Performing temperatures and flow logging along the length of the well must correlate with information on fracture growth.

(13) Proppants must be tagged with radioactive isotopes so that proppant can be analysed to locate where different stages of the proppant went and to locate fracture at depth.

(14) Chemical tracers must be added to hydraulic fracturing fluid to improve the understanding of fracture fluid loss and flowback.

(15) Temperatures in the well must be measured to trace fluids from shale formations that are at a higher temperature than shallow fluids using fibre-optic sensors to measure temperature, pressure and sound that provides real-time information on fracture locations in the well (fibre-optic sensors are especially valuable for use in downhole high pressure high T situations where electronic gauges fail).

9. Well suspension

A holder may only suspend a well-

(a) after obtaining the approval of the designated agency; and
(b) for a period determined by the designated agency, which period may not exceed eighteen months.

10. Suspended well integrity management

(1) A holder must ensure that management standards and procedures are in place for monitoring wells that are in suspension phase following drilling and hydraulic fracturing operations, prior to development phase including the status of the equipment and any annulus pressure.

(2) Procedures must take account of the specific circumstances of the well and must include the reporting criteria for any anomaly and a risk assessment of the anomaly.

(3) The suspension of a well-

(a) must be effected in such a way that the well can be re-entered safely and secured using pressure control equipment, without compromising the barrier in place;
(b) may not jeopardise the future final decommissioning and abandonment of the well.

11. Well decommissioning or closure

(1) A well that is no longer active, or producing, or for which the approved suspension period determined in terms of paragraph 9(1)(b) has passed, must be plugged and decommissioned in accordance with a final rehabilitation, decommissioning and closure plan as contemplated in regulation 20(3) approved by the designated agency;

(2) The final rehabilitation, decommissioning and closure plan must take into account the following-

(a) current conditions and the design of the well;
(b) height of cement in annulus outside casing;
(c) permeable formations outside casing that must be covered by cement;
(d) cement casing overlaps;
(e) the need for abandonment plugs to cover the full diameter of the hole;
(f) the type of fluid in annuli above cement;
(g) the difficulties of injecting cement into the annulus;
(h) future monitoring of the integrity of the well plug;
(i) the depth below the surface at which the casing must be cut; and
(j) related seismic activity risks.

(3) The surface area of the decommissioned well must be clear of obstructions and equipment and the well bore must be cemented for the full length and diameter of the wellbore to surface.

APPENDIX 2

CONTENT OF A POST HYDRAULIC FRACTURING REPORT

(1) A holder must compile and submit, to the designated agency and the Minister responsible for water affairs, a detailed post hydraulic fracturing operation report for review and recommendations, which report must include as a minimum-

(a) the location of the well, position in co-ordinates and well number;
(b) the actual fluid compositions, concentrations and total volumes used;
(c) the actual surface and downhole treating pressure range;
(d) the maximum injection treating pressure;
(e) the actual or calculated fracture geometry;
(f) annuli and offset well pressure monitoring records;
(g) confirmation and wellbore integrity was maintained throughout the operation;
(h) the testing and flow-back results;
(i) the chemical composition of gases released from wells;
(j) an explanation of operational variations to the pre-job design;
(k) data and information concerning related seismic events, in internally accepted formats, that have been recorded including the steps taken as a result of such events;
(l) plans to continue micro-seismic monitoring; and
(m) the induced seismic events that have been recorded including the steps taken as a result of such events.

(2) A holder must compile an audit report of the detailed post hydraulic fracturing operations for the complete well pad and submit the report to the designated agency and the Minister responsible for water affairs.

APPENDIX 3

STANDARD CONDITIONS

(1) The following conditions are applicable to the issuing of a right as contemplated in regulation 7(1):

(a) On receipt of the exploration right the holder must submit copies of the consolidated environmental impact assessment report, the base line monitoring plan and the environmental management programme as contemplated in regulation 7(1)(b) to South African Heritage Resources Agency.
(b) The holder must notify the decision making authorities fourteen days before the commencement of the operations to facilitate compliance inspections.
(c) Prior to the commencement of the exploration operations, the holder must appoint:
  (i) an independent environmental control officer who is required to be on site throughout the operational phase of the exploration operations and at intervals as agreed in the submission of the annual updates of the final rehabilitation, decommissioning and closure plan, once the decommissioning and closure operations are initiated; and
  (ii) a heritage specialist who is required to fulfil certain tasks and be available to assess any excavations or archaeological or palaeontological finds that could be unearthed through the exploration operations in line with the environmental management programme "chance finds protocol".
(d) Once appointed, the holder is required to provide the names, contact details, expertise and experience of the persons identified in paragraph (1)(c) to the decision making authorities.
(e) The independent environmental control officer will have, amongst others, the following duties as a minimum:
  (i) prepare and maintain a project file which contains the following information as a minimum;
    (aa) copies of all rights, permits, authorisations, licenses, programmes, plans consents and financial guarantees associated with the operation;
    (bb) the approved environmental management programme;
    (cc) emergency response plan for health, environment and safety;
    (dd) any correspondence including reports and audits sent to or received from any decision making authority or the designated agency;

  (ii) maintain a site diary documenting the activities being undertaken on site daily;
  (iii) maintain an incident register which includes the remedial measures implemented to deal with the incident as well as the preventative measures implemented to avoid the re-occurance of such an incident;
  (iv) maintain a complaints register which includes the measures implemented to address the complaint;
  (v) on a daily basis ensure that the monitoring is being undertaken in relation to the base line monitoring plan as required;
  (vi) inspect the operations on a daily basis to ensure compliance with the environmental management programme;
  (vii) maintain a daily photographic record of the activities being undertaken;
  (viii) prepare and submit to competent authorities and the designated agency a close out report on finalisation of exploration activities and again on finalisation of the final rehabilitation, decommissioning and mine closure plan;

(ix) prepare a quarterly compliance audit report which must, as a minimum, include the following:
  (aa) the period of the audit;
  (bb) compliance with the environmental mangment programme outcomes and actions;
  (cc) compliance with the base line monitoring requirements of the base line monitoring plan;
  (dd) document any audit findings issued; and
  (ee) corrective measures for audit findings;
(x) submit the audit report to the decision making authorities and the designated agency; and
(xi) report any emergency or significant environmental incident to the decision making authorities witin 24 hours of occurrence including the measures being implemented to manage the emergency or incident.

(f) The audit cycle begins on commencement of operations and is required to be undertaken quarterly from the commencement date and submitted to the decision making authorities within three days of the end date of the audit.
(g) The heritage specialist will have, amongst others, the following duties as a minimum:
  (i) prepare and maintain a project file which contains copies of the base line monitoring plan as contemplated in regulation 7(1)(b) and the environmental management programme including the "change finds protocol";
  (ii) prepare a site map of all identified heritage or cultural resources required to be monitored including the agreed buffers in which no activities should be undertaken;
  (iii) on a monthly basis ensure that the base line monitoring is being undertaken as required;
  (iv) on a monthly basis inspect the operations to ensure compliance with the environmental managment programme and buffers with respect to the protection of archeological, palaeontological, cultural or heritage resouces; and
  (v) when contacted by the holder, inspect any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, aged ostrich eggshell fragments, charcoal and ash consentrations which could be associated with historic dwellings etc. and ensure that the procedures of the "change finds protocol" are adhered to in such instances.

(h) On commencement of the exploration operations, the requirements of the following programme and plans must be initiated and implemented:
  (i) the approved environmental management programme;
  (ii) the base line monitoring plan;
  (iii) the templates, spreadsheets, plans, reports and calculations required in terms of the Financial Provisioning Regulations; and
  (iv) the chance finds protocol for cultural heritage and palaeontological resources.

(2) The following conditions are applicable to the issuing of a right as contemplated in regulation 7(4) and (7):

(a) On receipt of the right, the holder must submit copies of the consolidated environmental impact assessment report, operational environmental monitoring plan, and the environmental management programme as contemplated in regulation 7(4)(b) or 7(7)(b) to South African Heritage Resouces Agency.

(b) The holder must notify the decision making authorities fourteen days before the commencement of the production operations or the continuation of exploration activities into production operations to facilitate compliance inspections.

(c) Prior to the commencement of the exploration or production operations the holder is required to make the following appointments:
  (i) the experts identified in paragraph (1)(c); and
  (ii) a well engineer who is required to be on site throughout the operational phase of the exploration or production operations and at intervals as agreed in the submission of the annual updates of the final rehabilitation, decommissioning and closure plan, once the decommissioning and closure operations are initiated.

(d) Once appointed the holder is required to provide the names, contact details, expertise and experience of the persons identified in paragraph 2(c) to the decision making authorities.

(e) The environmental control officer will have the duties identified in paragraph 1(e) above and the following additional duties as a minimum:
  (i) in the project file include as a minimum the following information and any updates to that information;
    (aa) copies of site plans indicating the well pads and wells to be constructed and drilled;
    (bb) a copy of the approved environmental management programme;
    (cc) a copy of the approved operational environmental monitoring plan;
    (dd) a copy of the approved waste management plan;
    (ee) a copy of the emergency and spill contingency plan;
    (ff) the approved well examination plan;
    (gg) the well design and testing critieria;
    (hh) details including the certification of the accredited laboratories to which samples are to be sent;
    (ii) details including the certification of the waste treatment and waste disposal facilities to which wastes are to be directed;
    (jj) copies of the engineering drawings for the construction of the well pads and wells including the material specifications and strength testing requirements; and
    (kk) technical specification for equipment (e.g., rigs, pumps etc.);

  (ii) inspect the operations on a daily basis to ensure compliance with the environmental management programme, the operational environmental monitoring plan, the waste management plan and the emergency and spill contingency plan; and
  (iii) prepare a weekly audit which conforms to the information identified in paragraph 1(e)(ix) above and submit the audit report including the supporting documentation to the decision making authorities three days after its preparation.

(f) The audit cycle begins on commencement of operations and is required to be undertaken quarterly from the commencement date and submitted to the decision making authorities within three days of the end date of the audit.

(g) The well engineer will have the following duties as a minimum:
  (i) design all wells;
  (ii) maintain a well file as contemplated in regulation 13(2) and submit the file to the designated agency for approval as contemplated in regulation 15(3);
  (iii) collate, maintain and archive all water quality monitoring results including the raw data;
  (iv) inspect the operations on a daily basis to ensure compliance with the well design requirements the pressure testing requiements and the emergency and spill contingency plan;

(v) sign off on all pressure test results;
(vi) submit the records for mechanical integrity tests and monitoring to the designated agency every quarterly;
(vii) be present when blowout prevention equipment is installed, tested, or in use;
(viii) prepare a technical report on a weekly basis for inclusion in the audit report prepared by the environmental control officer which report must as a minimum include the following:

(aa) the period covered by the technical report;
(bb) compliance with the construction requirements of the environmental management programme outcomes and actions;
(cc) compliance with the monitoring requirements of the operational environmental monitoring plan;
(dd) compliance with the waste management plan including both waste water and solid waste managment;
(ee) compliance with the emergency and spill contingency plan;
(ff) a collation of water quality results represented in a graphical form indicating trends and cumulative impacts;
(gg) hydraulic fracturing fluids and proppants used on site, including the type of chemicals and proppants, quantity used and location of use including well names and locations;
(hh) material data sheets for all hydraulic fracturing fuids, proppants and chemicals;
(ii) submit test results of water quality monitoring, including the relevant laboratory accredition and chain of custody and sample storage protocols to the relevant decision making authorities quarterly; and
(jj) report any incidents that have happened relating to the operations, or spikes and anomalies in testing, providing details and remedial measures;

(ix) liase with the environmental control officer weekly to provide input to the audit reports being prepared for the operation;
(x) identify and report any risks to the environmental control officer;
(xi) keep records of all pressure test and provide the information for monthly audits;
(xii) keep records (including the raw data) of cement strength and compression testing and provide the information for the monthly audit reports;
(xiii) request inspections from the designated agency as required; and
(xiv) maintain and archive all design and construction records, including topographical surveys and materials test results on all materials used, for access during the operations and after decommissioning and closure.

(h) The holder must compile and submit, to the designated agency and the Minister responsible for water affairs, a detailed post hydraulic fracturing operational report for review.
(i) The holder must ensure that all boreholes are capped to avoid tampering with groundwater quality from surface pollution or human interference to ensure that results provided are a true reflection of the boreholes.

DEPARTMENT OF FORESTRY, FISHERIES AND THE ENVIRONMENT

NO. 2274 **11 July 2022**

NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998
(ACT NO. 107 OF 1998)

CONSULTATION ON THE INTENTION TO AMEND THE PROCEDURES FOR THE ASSESSMENT AND MINIMUM CRITERIA FOR REPORTING ON IDENTIFIED ENVIRONMENTAL THEMES IN TERMS OF SECTIONS 24(5)(a) AND (h) AND 44 OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998, WHEN APPLYING FOR ENVIRONMENTAL AUTHORISATION

I, Barbara Dallas Creecy, Minister of Forestry, Fisheries and the Environment, hereby consult on the intention to, under sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998 (Act No. 107 of 1998), amend the protocol for the specialist assessment and minimum report content requirements for environmental impacts on terrestrial animal species, published under Government Notice No. 1150 in Government *Gazette* No. 43855 on 30 October 2020, by removing the reference to "terrestrial" where it occurs in the protocol, as set out in the Schedule.

This amendment would allow the protocol to apply to freshwater and terrestrial animal species.

The requirements of this protocol will apply to assessments on all animal species from the date of publication, except where the applicant provides proof to the competent authority that the specialist assessment affected by this protocol had been commissioned by the date of publication of the protocol in the Government *Gazette*, in which case Appendix 6 of the Environmental Impact Assessment Regulations, 2014, as amended, will apply to such applications.

Members of the public are invited to submit written comments or inputs, within 30 days after the publication of this Notice in the *Gazette,* to the following addresses:

By post to: The Director-General
Department of Forestry, Fisheries and the Environment
Attention: Dr D Fischer
Private Bag X447
PRETORIA
0001

By hand at: Reception, Environment House, 473 Steve Biko Road, Arcadia, Pretoria.

By e-mail: dfischer@dffe.gov.za

Any inquiries in connection with the notice can be directed to Dr Dee Fischer at dfischer@dffe.gov.za or (012)399 8843.

Comments or inputs received after the closing date may not be considered.

BARBARA DALLAS CREECY
MINISTER OF FORESTRY, FISHERIES AND THE ENVIRONMENT

SCHEDULE

1. The protocol for specialist assessment and minimum report content requirements for environmental impacts on terrestrial animal species, published under Government Notice No. 1150 in Government *Gazette* No. 43855 on 30 October 2020, is hereby amended by the substitution for–

(a) "terrestrial animal species" of "animal species";

(b) "Terrestrial Animal Species Specialist Assessment" of "Animal Species Specialist Assessment";

(c) "Terrestrial Animal Species Specialist Assessment Report" of "Animal Species Specialist Assessment Report"; and

(d) "Terrestrial Animal Species Compliance Statement" of "Animal Species Compliance Statement";

wherever these expressions occur.

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