

APPENDIX 7 – FINANCIAL QUANTUM

1. LEGISLATION

The relevant sections within the MPRDA (Act 28 of 2002) that deal with the financial provision are as follows:

- Section 41(1), requires that an applicant for a prospecting right, mining right or mining permit must, before the Minister approves the environmental management plan or the environmental management program report (EMPr) in terms of section 39(4), make the prescribed “financial provision” for the rehabilitation or management of negative environmental impacts,
- Section 41(2) provides that, if the holder of a prospecting right, mining right or mining permit fails to rehabilitate or manage, or is unable to undertake such rehabilitation or to manage, any negative impact on the environment, the minister may, upon written notice to such holder, use all or part of the financial provision to rehabilitate or manage the negative impact in question,
- Section 41(3) requires the holder of a prospecting right, mining right or mining permit to annually assess his or her environmental liability and increase his or her financial provision to the satisfaction of the minister, and
- Section 45, allows the minister to recover costs in the event of urgent remedial measures.

The financial provision required to be submitted by the holder of a prospecting right, mining right or mining permit (in the terms of Regulation 53 of the MPRDA Act 28 of 2002) is to achieve the total quantum for rehabilitation and remediation of the environmental impacts and associated damage as well as close-out must be provided. Regulation 54 requires that the quantum of financial provision, to be approved by the minister, must be based on the requirements of the approved EMPr and shall include a detailed itemisation of all actual costs required for:

1. Pre-mature closure regarding;
 - The rehabilitation of the surface of the area;
 - The prevention and management of pollution of the atmosphere;
 - The prevention and management of pollution of water and the soil; and
 - The prevention of leakage of water and minerals between subsurface formations
2. Decommissioning and final closure of the operation; and
3. Post closure management of residual and latent environmental impacts.

Regulation 53 and 54 of the Mineral and Petroleum Resources Development Regulations were replaced by the NEMA: Regulations pertaining to the financial provision for prospecting, exploration, mining or production operations (in GN 1147 GG 39425 of 20 November 2015). According to Regulation 5 of the NEM: Financial Provisions Regulations (2015, as amended in 2018), the scope of a financial provision requires an applicant or holder of a right or permit to make financial provision for—

- Rehabilitation and remediation;
- Decommissioning and closure activities at the end of prospecting, exploration, mining or production operations; and
- Remediation and management of latent or residual environmental impacts which may become known in future, including the pumping and treatment of polluted or extraneous water.

As per Regulation 6, an applicant must determine the financial provision through a detailed itemisation of all activities and costs, calculated based on the actual costs of implementation of the measures required for—

- Annual rehabilitation, as reflected in an annual rehabilitation plan;
- Final rehabilitation, decommissioning and closure of the prospecting, exploration, mining or production operations at the end of the life of operations, as reflected in a final rehabilitation, decommissioning and mine closure plan; and
- Remediation of latent or residual environmental impacts which may become known in the future, including the pumping and treatment of polluted or extraneous water, as reflected in an environmental risk assessment report.

The holder of a prospecting right, mining right or mining permit is required to annually assess the total quantum of environmental liability for a prospecting or mining operation and ensure that financial provisions are sufficient to cover the current liability (in the event of premature closure) as well as the end-of-mine liability. This is referred to as the “*window in time or snapshot in time approach*” as each assessment provides an indication of the environmental liability at that time only. The holder will also provide, on an annual basis, an indication of the end-of-life environmental liability.

This financial provision will be submitted to DMR in the North West Province as part of the Basic Assessment report. The total prospecting area to be disturbed covers a cumulative extent of 1.64 ha.

2. PROCEDURE TO DETERMINE THE QUANTUM FOR FINANCIAL PROVISION

The calculation of the financial closure liability associated with the prospecting activities has been undertaken by following best practice methodology as detailed in the Guideline Document for the Evaluation of the Quantum of Closure - Related Financial Provision Provided by a Mine, as published by the South African Department of Mineral Resources, dated January 2005.

The best practice procedure for calculating financial closure liability is summarised as follows:

- Step 1: Determine the primary mineral and saleable mineral by-products.
- Step 2: Determine the risk class of the mine.
- Step 3: Determine the area sensitivity in which the mine is located.
- Step 4.1: Determine the level of information available for calculating the financial liability.
- Step 4.2: Determine the closure components associated with the mine.
- Step 4.3: Determine the unit rates for the associated closure components.
- Step 4.4: Determine and apply various weighting factors (site specific).
- Step 4.5: Identify the areas of disturbance.
- Step 4.6: Identify any specialist studies required.
- Step 4.7: Calculate the closure liability using the guideline template provided.

2.1 Step 1: Mine Type and Saleable Mineral

The intent is to prospect to mineral commodities such as copper, lead, zinc, nickel and cobalt (base metals) and, gold and silver (precious metals) once the PR has been approved. There are no saleable by-products applicable to prospecting this mineral.

2.2 Step 2: Risk Ranking

According to the guideline, base metals are considered to be a risk Class C – Low Risk facility, if the facility is small in scale and precious metals such as gold and silver are considered to be risk Class B – Medium Risk Facility (also for small scale activities). However, this relates to mining and as this application is for prospecting a risk rating of Class C – Low Risk Facility has been adopted. The risk ranking class is used later to determine the multiplication factors applied to the master rate (see Step 4.3).

2.3 Step 3: Environmental Sensitivity of the Project Area

The proposed prospecting site is classified as having a Medium Environmental Sensitivity based on the classification criteria listed in Table 1 below. The environmental sensitivity ranking is used later to determine the multiplication factors applied to the master rate (see Step 4.3).

Table 1: Sensitivity Ranking

Sensitivity	Sensitivity Criteria		
	Biophysical	Social	Economic
Low	<ul style="list-style-type: none"> Largely disturbed from natural state, Limited natural fauna and flora remains, Exotic plant species evident, Unplanned development, Water resources disturbed and impaired. 	<ul style="list-style-type: none"> The local communities are not within sighting distance of the mining operation, Lightly inhabited area (rural). 	<ul style="list-style-type: none"> The area is insensitive to development, The area is not a major source of income to the local communities.
Medium	<ul style="list-style-type: none"> Mix of natural and exotic fauna and flora, Development is a mix of disturbed and undisturbed areas, within an overall planned framework, Water resources are well controlled. 	<ul style="list-style-type: none"> The local communities are in proximity of the mining operation (within sighting distance), Peri-urban area with density aligned with a development framework, Area developed with an established infrastructure. 	<ul style="list-style-type: none"> The area has a balanced economic development where a degree of income for the local communities is derived from the area, The economic activity could be influenced by indiscriminate development.
High	<ul style="list-style-type: none"> Largely in natural state, Vibrant fauna and flora, with species diversity and abundance matching the nature of the area, Well planned development, Area forms part of an overall ecological regime of conservation value, 	<ul style="list-style-type: none"> The local communities are in close proximity of the mining operation (on the boundary of the mine), Densely inhabited area (urban or dense settlements), Developed and well-established communities. 	<ul style="list-style-type: none"> The local communities derive the bulk of their income directly from the area, The area is sensitive to development that could compromise the existing economic activity.

Sensitivity	Sensitivity Criteria		
	Biophysical	Social	Economic
	<ul style="list-style-type: none"> Water resources emulate their original state. 		

2.4 Step 4.1: Determine the Level of Information

The information available for this PR study area is extensive and a large number of specialist assessments has been conducted in the immediate area.

2.5 Step 4.2: Determine the Closure Components

The closure components relevant to the site-specific conditions are to be determined from the list provided below:

1. Dismantling of processing plant & related structures (incl. WCP & power lines)? **No**
2. Demolition of steel buildings & structures? **No**
3. Demolition of reinforced concrete buildings & structures? **No**
4. Rehabilitation of access roads? **No (as far as possible existing access routes and tracks will be used)**
5. Demolition & rehabilitation of electrified railway lines? **No**
6. Demolition & rehabilitation of non-electrified railway lines? **No**
7. Demolition of housing &/or administration facilities? **No**
8. Opencast rehabilitation including final voids & ramps? **No**
9. Sealing of shafts, adits & inclines (excl. backfill of decline voids)? **No**
10. Rehabilitation of overburden & spoils? **No**
11. Rehabilitation of processing waste deposits & evaporation ponds (basic, salt producing waste)? **No**
12. Rehabilitation of processing waste deposits & evaporation ponds (acidic, metal-rich waste)? **No**
13. Rehabilitation of subsided areas? **No**
14. General surface rehabilitation? **Yes**
15. River diversions? **No**
16. Fencing? **No**
17. Water management? **No**
18. 2 to 3 years of maintenance & aftercare? **Yes**

A short summary of what each of the above closure components entails is included in the section below:

Item 1 - General Surface Rehabilitation:

- Landscaping that facilitates surface runoff and results in free draining areas is required.
- The area must be free of remnants of structures and surface infrastructure, to give the rehabilitated area a “neat” appearance.
- The final area must be suitable for revegetation.

Item 2 – Two to three years of maintenance and aftercare

- Monitoring of rehabilitation
- Control of alien plants.

- General maintenance

2.6 Step 4.3: Determine the Unit Rates

The unit (Master) rates, for each closure component is taken from the Guideline Document for the Evaluation of the Quantum of Closure - Related Financial Provision Provided by a Mine as published by the South African Department of Mineral Resources, dated January 2005. Furthermore, a Multiplication Factor is applied depending on the Risk Ranking and the Environmental Sensitivity (calculated in Step 2 and 3 previously). CPI, as available on StatsSA, has been used from 2006 to date on all master rates as requested by DMR (please refer to Table 2a and Table 2b included below).

Table 2a: CPI increases applied to master rates for rehabilitation

Year	CPI Increase (StatsSA)	General Rehabilitation Cost (DMR Guidelines)	Maintenance Cost (DMR Guidelines)
2005	3,40%	52600,00	700,00
2006	4,70%	55072,20	732,90
2007	7,10%	58982,33	784,94
2008	11,50%	65765,29	875,20
2009	7,10%	70434,63	937,34
2010	4,30%	73463,32	977,65
2011	5,00%	77136,48	1026,53
2012	5,60%	81456,13	1084,02
2013	5,70%	86099,13	1145,81
2014	6,10%	91351,17	1215,70
2015	4,60%	95553,33	1271,62
2016	6,40%	101668,74	1353,01
2017	5,30%	107057,18	1424,72
2018	4,51%	111500,05	1488,97
2019	4,12%	116093,86	1550,32
2020	3,22%	119832,08	1600,24
2021	4,61%	125356,34	1674,01
2022	5,68%	132476,58	1769,10

Table 2b: Master rates for rehabilitation

Description	Unit	Master rate (ZAR)	Factor
Item 1 - General surface rehabilitation	ha	R 132476,58	1.00
Item 2 - Two to three years of maintenance & aftercare	ha	R 1769,10	1.00

2.7 Step 4.4: Determine the Weighting Factors

Weighting factors based on the specific mine/process location are presented in the table below.

Table 3: Weighting Factors

Weighting factor 1 – Nature of terrain	Flat Weighting 1.0	Undulating Weighting 1.10	Rugged Weighting 1.20
Weighting factor 2 – proximity to urban centre and services	Urban Weighting 1.0	Peri-urban Weighting 1.10	Rural Weighting 1.20

2.8 Step 4.5: Identify Areas of Disturbance

The areas of disturbance are listed as:

- 0.84 ha – Drill holes;
- 0.80 ha – Site Camp

2.9 Step 4.6: Identify Closure Costs from Specialist Studies

This is not applicable, as an independent third party (EOH CES) has calculated these costs. Refer to Part A section (v), Table 1 as well as mitigation measures set out in Part B of the EMPr regarding environmental and social risks/impacts of the various stages of the activity.

2.10 Step 4.7: Calculate the Closure Liability

The provisionally estimated financial closure liability associated with the Duyker Eiland Project is R 137 096,31 (VAT inclusive) for the future areas of disturbance and are presented in Table 5.

Table 5: Projected project closure liability costs

Description	Unit	Rate (ZAR)	Quantity	MF	W1	Cost (ZAR)
Item 4 - General surface rehabilitation	ha	R 132 476,58	0.81	1	1.1	R 106 948,34
Item 7 - Two to three years of maintenance & aftercare	ha	R 1769,10	0.81	1	1.1	R 1 428,19
TOTAL: R 119 214,18						
+VAT (15%): R 137 096,31						