

**ACID MINE DRAINAGE (AMD) FROM THE WITWATERSRAND
GOLDFIELDS**

**MOTIVATION FOR EXEMPTION FROM THE
ENVIRONMENTAL IMPACT ASSESSMENT
(EIA) REGULATIONS FOR THE PROPOSED
~~IMMEDIATE AND~~ SHORT-TERM
INTERVENTIONS**

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1. PURPOSE

The purpose of this document is to ~~apply motivate~~ for an exemption from the EIA Regulations (as presented in Government Notices R543, ~~R544, R545 and R718~~) for the activities associated with the interventions required to implement the so-called 'short-term' interventions for management of Acid Mine Drainage (AMD) originating from the Witwatersrand Goldfields. The document also serves to request environmental authorization for these activities.

The ~~motivation application~~ for exemption is submitted by the Department of Water Affairs (DWA) under Section 24M of the National Environmental Management Act (NEMA), and serves to apply for exemption in terms of Regulations 50, 51 and 52 of the EIA Regulations. Exemption is specifically required from Regulations 31 (Environmental impact assessment reports), 32 (Specialist reports and reports on specialised processes), 33 b (iii),(iv) and (v) (operations, rehabilitation and closure requirements in the EMP) and 34 (Consideration of environmental impact assessment reports).

This application is structured in response to the requirements of Regulation 51, namely:

Submission of application

51. (1)An application in terms of regulation 50 must be in writing, and must be accompanied by—

(a) an explanation of the reasons for the application;

(b) any applicable supporting documents; and

(c) the prescribed application fee, if any.

~~and is structured to present the background to the application, to present the problem that has compelled the application for exemption and then to present the motivation for exemption~~

2. BACKGROUND REASONS FOR THE APPLICATION

a.2.1 Overview

The problem of AMD has resulted from a combination of rising groundwater in the mine voids of the Witwatersrand and the acidification of that groundwater. The water is rising because as mining has progressively ceased so pumping of groundwater has similarly stopped. The acidification occurs through contact with sulphur bearing compounds on the underground rock faces. Due to the acidity of the same, the rising water poses various threats to underground infrastructure, other groundwater aquifers and, if allowed to decant (discharge at surface) the surface water environment too. As it is, AMD has been decanting on the West Rand since 2002.

b.2.2 Inter-Ministerial Committee (IMC)

An inter-ministerial committee (IMC) was established to investigate the problem. The outcome of that investigation was to define a series of interventions that would serve to manage AMD. In broad terms the interventions defined by the IMC are inter alia to:

1. Pump the acidified groundwater from the mine voids to control the rate of rise of that water and to achieve and maintain defined ECLs – ECLs are groundwater levels that if achieved and maintained will prevent the manifestation of negative environmental impacts. The ECLs also include a buffer.
2. Establish treatment facilities that would serve to neutralize the acid water before it gets discharged into the surface water environment, in the short term; and,
3. Identify and implement a full suite of management interventions including cost recovery, which would provide a sustainable solution to the AMD problem, in the long term.

2.3 Ministerial Directive

The Minister of Water and Environmental Affairs accordingly issued a directive to the Trans Caledon Tunnel Authority (TCTA) to implement certain requirements that have been dubbed the ‘immediate’ and ‘short term interventions’. Following a due diligence assessment, these interventions are:

1. Upgrading existing facilities at Mogale Gold (on the West Rand) to pump and neutralize AMD and discharge the treated water (this is known as the ‘immediate intervention’); and,
2. Establishing new infrastructure (for pumping and neutralizing AMD and discharging the treated water) in the Western, Central and Eastern Basins of the Witwatersrand Goldfields (this is known as the ‘short-term intervention’).

TCTA also proposed that High Density Sludge Separation (HDS) technology be used to neutralize the AMD. This technology would also serve to remove heavy metals and a portion of the dissolved salts from the neutralized water. The technology also requires the disposal of a sludge that originates from the neutralization process.

2.4 Environmental Impact Assessment (EIA)

TCTA initiated an Environmental Impact Assessment (EIA) as well due to the fact that the short-term intervention would ‘trigger’ certain listed activities defined in the EIA Regulations (Government Notice R.543). Digby Wells Environmental (DWE) was appointed as the independent environmental consultant and they in turn started the Scoping phase of the EIA process in early 2012. As part of the Scoping exercise it was made clear to stakeholders that because of the urgency of the AMD problem that it would be necessary to start construction of the short-term intervention before the EIA could be concluded. It was not made clear at that stage though, as to how the requirement to start construction prior to the conclusion of the EIA would be effected because there was no certainty on how that might happen.

During Scoping stakeholders voiced considerable discontent in respect of several critical considerations. These included that:

1. The decision to pump and neutralize (using HDS technology) had already been taken and that stakeholder participation could therefore not influence the outcome of the EIA in any way;
2. Alternatives, which are a key consideration in the EIA process, were being considered in name only (again because the decision to pump and neutralize had already been taken);

3. The short-term intervention would mean that 'polluted' water (high salinity) would be discharged into the surface water environment for an indefinite period; and,
4. It was not clear as to how long it would take for a complete sustainable solution to the AMD problem to be implemented.

e.2.5 The problem statement

As such a situation has been reached where the EIA on the short-term intervention cannot be continued in good faith. In summary there are timing (construction must be started before the EIA can be completed), procedural (whether public participation and the investigation of alternatives is meaningful) and technical (the short term intervention will result in the discharge of saline water into the surface water environment) problems with the short-term intervention EIA. At the same time authorization is required urgently for the activities associated with the ~~immediate and~~ short-term interventions so that pumping can be started in time to achieve and maintain the required ECLs.

3. MOTIVATION

a.3.1 For exemption

The Department of Water Affairs (DWA) accordingly motivates hereby that the ~~immediate and~~ short-term interventions required for the management of the AMD problem be exempted from the following EIA Regulations (Government notices R543), ~~R544, R545 and R718~~.

- [Regulation 31 \(Environmental impact assessment reports\);](#)
- [Regulation 32 \(Specialist reports and reports on specialised processes\),](#)
- [Regulation 33 b \(iii\),\(iv\) and \(v\) \(operations, rehabilitation and closure requirements in the EMP\); and,](#)
- [Regulation 34 \(Consideration of environmental impact assessment reports\).](#)

-The DWA commits to the immediate commencement of a full Environmental Impact Assessment (EIA) in accordance with the EIA regulations for all the activities associated with the long-term, sustainable solution to the AMD problem. Included in that EIA will be a detailed assessment of the impacts associated with the implementation of the short-term interventions.

b.3.2 For authorisation

The Western Basin is already decanting, and it is predicted that that AMD will breach ECL in the Central and Eastern Basins by mid- 2013 and 2014 respectively. Action needs to be taken immediately if the required interventions are to be operational in time. The construction times for the three basins are 14 months (Western), 10,5 months (Central) and 18 months (Eastern). It is for the purpose of ensuring that construction activities can be started in time that authorisation is now sought for the short-term interventions. The listed activities associated with the short-term intervention are detailed in Annexure 1.

4. REGULATORY PROVISIONS

a.4.1 Section 24M of NEMA

The exemptions applied for above are submitted in terms of Section 24M of the NEMA, the first part of which is detailed below:

24M Exemptions from application of certain provisions

(a) The Minister or an MEC, as the case may be, may grant an exemption from any provision of this Act, except from a provision of section 24(4)(a);

In respect of 24M(1) above it must be emphasised that there is no requirement to be exempted from a provision of Section 24(4)(a). The requirements of Section 24(4)(a) are reproduced below:

24 (4) Procedures for the investigation, assessment and communication of the potential consequences or impacts of activities on the environment-

(a) must ensure, with respect to every application for an environmental authorisation-

(i) coordination and cooperation between organs of state in the consideration of assessments where an activity falls under the jurisdiction of more than one organ of state;

(ii) that the findings and recommendations flowing from an investigation, the general objectives of integrated environmental management laid down in this Act and the principles of environmental management set out in section 2 are taken into account in any decision made by an organ of state in relation to any proposed policy, programme, process, plan or project;

(iii) that a description of the environment likely to be significantly affected by the proposed activity is contained in such application;^[OO]

(iv) investigation of the potential consequences for or impacts on the environment of the activity and assessment of the significance of those potential consequences or impacts; and

(v) public information and participation procedures which provide all interested and affected parties, including all organs of state in all spheres of government that may have jurisdiction over any aspect of the activity, with a reasonable opportunity to participate in those information and participation procedures;

In motivating for exemption from the EIA regulations the DWA is proposing to conduct an Environmental Impact Assessment (EIA) process as detailed in the EIA regulations of NEMA which will materially comply with the requirements of 24(4)(a).

In addition Section 24M(3) stipulates:

The Minister or an MEC, as the case may be, must prescribe the process to be followed for the lodging and processing of an application for exemption in terms of this section.

It is respectfully submitted that the Scoping process conducted to date has been an adequate process for lodging this application for exemption. The Scoping process has seen widespread public consultation. Indeed, it is that very consultation that has necessitated this application for exemption (as argued earlier). In addition

opportunity has been provided in that consultation for stakeholders to comment on the need to start construction activities on the immediate and short-term interventions before an EIA can be concluded. Finally, given that it is still proposed to conduct an EIA that is fully compliant with the EIA Regulations, the granting of exemption will not inhibit or restrict the rights of stakeholders to participate meaningful in the process of assessing the interventions required to effectively manage AMD.

Finally it is necessary to deal with Section 24M(4), which is reproduced below.

(4) The Minister, the Minister of Minerals and Energy or MEC may only grant an exemption contemplated in subsection (1) or (2), as the case may be, if-

(a) the granting of the exemption is unlikely to result in significant detrimental consequences for or impacts on the environment;

(b) the provision cannot be implemented in practice in the case of the application in question; or

(c) the exemption is unlikely to adversely affect the rights of interested or affected parties.

DWA's contention that exemption is warranted in the case of the AMD management interventions is based on (b) above where the stalemate position reached in the current EIA process, means that the provisions of the EIA regulations cannot be implemented. The decision for the short-term intervention has already been made (issued as a ministerial directive) and unless that intervention is initiated within the immediate future there will be significant environmental degradation and damage to or loss of property.

At face value, it would seem that neither (a) nor (c) can be met in respect of the short-term intervention. The short-term intervention will result in high saline water being discharged into the surface water environment which poses the risk of impacting negatively on both the Vaal and the Crocodile River systems. In addition, many stakeholders participating in the EIA process have made it clear that they strongly oppose the short-term intervention. The question that has to be considered in respect of the two Section 24M requirements shown above is what will happen if no action is taken?

In response to this latter question it can be safely presented that there is little disagreement amongst stakeholders that allowing the acid mine water to decant uncontrolled in the central and eastern basins and to continue to decant in the western basin will have significantly greater detrimental impacts on the environment than the proposed short-term intervention. One only has to consider the severely degraded state of the downstream environment in the Western Basin, where AMD has been allowed to decant uncontrolled since 2002 to realise that pumping and neutralisation (the short-term intervention) has to be a better environmental outcome than allowing uncontrolled decant of AMD.

This argument applies also in respect of protecting the rights of affected parties, where it follows similarly that uncontrolled decant of AMD would impact to a far greater degree on the rights of affected parties, than the proposed short-term intervention. Finally, but importantly, the proposed short-term intervention was not

capricious in origin. The experts appointed by the IMC are independent specialists in their fields and the proposed short-term intervention is based on a comprehensive and scientific assessment that did not just consider the potential impacts on the environment but actively sought to prevent such impacts. The short-term intervention will be akin to what has happened for many years during mining operations where high salinity water was discharged into downstream surface water.

4.2 Promotion of Administrative Justice Act (PAJA).

In considering this motivation for exemption, the provisions of the Promotion of Administrative Justice Act (PAJA) must also be considered. PAJA serves *'to give effect to the right to administrative action that is lawful, reasonable and procedurally fair and to the right to written reasons for administrative action as contemplated in section 33 of the Constitution of the Republic of South Africa, 1996; and to provide for matters incidental thereto'*. It stands to reason that the decision on this exemption motivation must of course uphold the requirements of the Act and in conducting an EIA in terms of the EIA regulations will also serve to uphold this requirement.

4.3 Section 110 (2) of the National Water Act (NWA)

For the sake of completeness reference is also made here to Section 110 (2) of the National Water Act (NWA). The Minister of Water and Environmental Affairs declared the immediate and short-term interventions as an *'Emergency Government Waterworks'* and as such not *'subject to the approval of an environmental impact assessment before construction commences'* in terms of Section 110 (2)(a) (Notice 830 of 2012, published 12 October 2012). In the same notice, the Minister also declared that because the *works required to discharge the neutralised acid mine drainage into the receiving rivers is of a temporary nature of less than 5 years*, that the works are similarly *not subject to an environmental impact assessment process* in terms of Section 110 (2)(b). It should also be noted that Section 110 (2) of the NWA is **not** being used to motivate for exemption from the EIA regulations defined under NEMA.

5. PUBLIC PARTICIPATION

5.1 The public participation process

Regulation 51(3) stipulates that:

(3)The applicant or EAP must communicate his or her intention to apply for exemption in terms of regulation 50 by giving notice in the manner prescribed in sub-regulation 54(2)(a), (b), (c) or (d) or a combination thereof which is appropriate in the circumstances and as agreed to with the Minister, MEC or Minister of Mineral Resources, to the land owner or person in control of the land and all potential or registered interested and affected parties, as the case may be.

In response to that requirement the following has occurred:

- A draft of the original exemption application that was submitted to the DEA was sent to all registered stakeholders. The stakeholder database used was that developed for the Scoping process and which included more than 970

interested and affected parties who had participated directly who simply registered an interest in the proposed short-term intervention EIA.

- Public meetings were held at venues in the West Rand, Central Basin and Eastern Basins (i.e. one in each of the three basins that will potentially be affected by AMD in line with the Public Participation Process followed for the EIA to date) and one focus group meeting in the Vaal area.
- A period of 14 calendar days was allowed for comment on the exemption application (5-19 November 2012)
- Newspaper advertisements were also placed in The Star and the Sowetan advertising the fact that exemption was being applied for. Because the newspaper advertisements were only placed on 21 November 2012, an additional 7 calendar days were provided for comment (until 28 November 2012); and,
- All stakeholders were sent another communiqué advising of the advertisement in the newspapers, explaining the role of that advertisement and advising the availability of this version of the exemption application.

5.2 Comments received from stakeholders

In general terms the following broad themes are present in the various comments received from stakeholders and made during the public engagements:

- Unconditional support for the exemption application so that pumping and neutralisation can be started as soon as possible;
- Conditional support for the exemption application where the condition stipulated is that the long-term solution must be implemented in parallel with the short term intervention;
- Conditional support for the exemption application where the condition stipulated is that there must be detailed assessments of the short term intervention including:
 - Baseline ecological assessment
 - Sludge characterization
 - Water monitoring data
 - Radiological assessment
 - Comprehensive rehabilitation plan with budgets
 - Radiological impact assessment;
 - Seismicity assessment;
 - High salt loads assessment;
 - Regional impacts assessment;
 - Health impacts assessment; and,
 - Ground- and surface water impacts
- Rejection of the exemption application on the basis of the fact that the problem of AMD is perceived to be exaggerated and there are alternative, cheaper ways of resolving the problem as opposed to the proposed short-term intervention.
- Rejection of the exemption application on the basis that the process is procedurally flawed and the law does not allow for the exemption application as envisaged.
- Comments that not all registered stakeholders had received the notification;

- Comments that poor people could not access the venues.
- A slew of comments on AMD in general and general frustration with the perceived lack of urgency in addressing the problem.

All the individual comments are currently being collated and a detailed issues-response document will be submitted to the Department in due course.

5.3 Additional documents

As part of this application the Final Scoping Report (described earlier in this report) has been submitted to the Department. All comments made during the consultation process will be submitted to the Department in an issues-response report.

Annexure 1: Listed activities that are potentially triggered by the proposed short term intervention.

The listed activities which were applied for include listed activities 9, 11, 13, 18, 23, 28, 37 and 39 of GNR 544 and listed activities 3, 5 and 10 of GNR 545. Category A waste management activity 19 and Category B waste management activities 1, 6, 7 and 9 as contained in GNR 718 has been identified as waste management activities that require waste management licences. The listed activities which will be triggered by the proposed immediate and short-term intervention are detailed in Table 1 below.

Table 1: Listed activities applicable to the proposed project

GN. R	Activity	Description
544	9	The construction of facilities or infrastructure exceeding 1000 metres in length for the bulk transportation of water, sewage or storm water – i. With an internal diameter of 0.36 metres or more; or ii. With a peak throughput of 120 litres per second or more, Excluding where: a) Such facilities or infrastructure are for bulk transportation of water, sewage or storm water or storm water drainage inside a road reserve; or b) Where such construction will occur within urban areas but further than 32 metres from a watercourse, measured from the edge of the watercourse.
544	11	The construction of: i. Canals; ii. Channels; iii. Bridges; iv. Dams v. Weirs vi. Bulk storm water outlet structures; vii. Marinas; viii. Jetties exceeding 50 square metres in size; ix. Slipways exceeding 50 square metres in size; x. buildings exceeding 50 square meters in size; or xi. Infrastructure or structures covering 50 square metres or more where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line
544	13	The construction of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 but not exceeding 500 cubic metres.
544	18	The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock from: i. A watercourse; ii. The sea;

		<p>iii. The seashore;</p> <p>iv. The littoral active zone, an estuary or a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever distance is the greater – but excluding where such infilling, depositing, dredging, excavation, removal or moving</p> <p>i. Is for maintenance purposes undertaken in accordance with a management plan agreed to by the relevant authority; or</p> <p>ii. Occurs behind the development setback line</p>
544	23	<p>The transformation of undeveloped, vacant or derelict land to –</p> <p>i. Residential, retail, commercial, recreational, industrial or institutional use, inside an urban area, and where the total area to be transformed is 5 hectares or more, but less than 20 hectares, or</p> <p>ii. Residential, retail, commercial, recreational, industrial or institutional use, outside an urban area and where the total area to be transformed is bigger than 1 hectare but less than 20 hectares.</p>
544	28	<p>The expansion of existing facilities for any process or activity where such expansion will result in the need for a new, or amendment of, and existing permit or license in terms of national or provincial legislation governing the release of emissions or pollutions, excluding where the facility, process or activity is included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the Act will apply.</p>
544	37	<p>The expansion of facilities or infrastructure for the bulk transportation of water, sewage or storm water where:</p> <p>a) The facility or infrastructure is expanded by more than 1 000 metres in length; or</p> <p>b) Where the throughput capacity of the facility or infrastructure will be increased by 10% or more –</p> <p>Excluding where such expansion:</p> <p>i. Relates to transportation of water, sewage or storm water within a road reserve; or</p> <p>ii. Where such expansion will occur within urban areas but further than 32 metres from a watercourse, measured from the edge of the watercourse.</p>
544	39	<p>The expansion of</p> <p>i. Canals;</p> <p>ii. Channels;</p> <p>iii. Bridges;</p> <p>iv. Weirs;</p> <p>v. Bulk storm water outlet structures;</p> <p>vi. Marinas;</p> <p>Within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, where such</p>

		expansion will result in an increased development footprint but excluding where such expansion will occur behind the development setback line.
545	3	The construction of facilities or infrastructure for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of more than 500 cubic metres.
545	5	The construction of facilities or infrastructure for any process or activity which requires a permit or license in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent and which is not identified in Notice No. 544 of 2010 or included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case that Act will apply.
545	10	The construction of facilities or infrastructure for the transfer of 50 000 cubic metres or more water per day, from and to or between any combination of the following: i. water catchments, ii. water treatment works, or iii. impoundments. Excluding treatment works where water is to be treated for drinking purposes.
List of Activities Identified in Terms of GN R 718 of the National Environmental Management: Waste Act, Act 59 of 2008		
CATEGORY A A person who wishes to commence, undertake or conduct an activity listed under this Category, must conduct a basic assessment process, as stipulated in the environmental impact assessment regulations made under section 24(5) of the National Environmental Management Act, 1998 (Act No. 107 of 1998) as part of a waste management Licence application. Construction, expansion or decommissioning of facilities and associated structures and infrastructure.		
718	19	The expansion of facilities or changes to existing facilities for any process or activity, which requires an amendment of an existing permit or license or a new permit or license in terms of legislation governing the release of pollution, effluent or waste.
CATEGORY B A person who wishes to commence, undertake or conduct an activity listed under this Category, must conduct an environmental impact assessment process, as stipulated in the environmental impact assessment regulations made under section 24(5) of the National Environmental Management Act, 1998 (Act No. 107 of 1998) as part of a waste management licence application.		
718	1	Storage of hazardous waste The storage including the temporary storage of hazardous waste in lagoons.
718	6	Treatment of waste The treatment of hazardous waste in lagoons.
718	7	The treatment of effluent, wastewater or sewage with an annual throughput capacity of 15 000 cubic metres or more.

718	9	Disposal of waste on land The disposal of any quantity of hazardous waste to land
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