

Vanchem Vanadium Products

Duferco GROUP

**NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT 107
OF 1998) SECTION 24G RECTIFICATION FOR THE UNLAWFUL
COMMENCEMENT AND CONTINUATION OF LISTED ACTIVITIES
ON THE VANCHEM VANADIUM PRODUCTS SITE IN FERROBANK,
eMALAHLENI, MPUMALANGA PROVINCE**

REF: 17/2/10/24G NK05/13

BACKGROUND INFORMATION DOCUMENT (BID)

Prepared by



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September 2013

LIST OF ABBREVIATIONS

BID	Background Information Document
CBD	.....	Central Business District
DWA	.....	Department of Water Affairs
EAP	.....	Environmental Assessment Practitioner
EIA	.....	Environmental Impact Assessment
EMP	.....	Environmental Management Programme
GNR	.....	Government Notice Regulation
GPS	.....	Global Positioning System
I&AP	.....	Interested and Affected Party
MDEDET	.....	Mpumalanga Department of Economic
MVR	.....	Mechanical Vapour Recompression
NEMA	.....	National Environmental Management Act, 1998 (Act 107 of 1998) as amended
NWA	.....	National Water Act, 1998 (Act 36 of 1998)
PPP	.....	Public Participation Process
SWD	.....	Storm Water Dam
V	.....	Vanadium
VVP	.....	Vanchem Vanadium Products (Pty) Ltd
WUL	.....	Water Use Licence

1. INTRODUCTION

HydroScience cc, an independent Environmental Assessment Practitioner (EAP), has been appointed by Vanchem Vanadium Products (Pty) Ltd (VVP), to apply for a National Environmental Management Act (NEMA), 1998 (Act 107 of 1998) as amended Section 24G rectification for the unlawful commencement and continuation of listed activities. An application for environmental authorisation has been submitted to the Mpumalanga Department of Economic Development, Environment & Tourism (MDEDET) for the construction and use of a pregnant solution tanks, condensate tanks and storm water dam (SWD) at VVP in Ferrobank, eMalahleni (Witbank), Mpumalanga Province. A Water Use Licence (WUL), Licence 04/B11KCGI/1617 (Ref 27/2/2/B1011/2/8) in terms of the National Water Act (NWA), 1998 (Act 36 of 1998) has been issued by Department of Water Affairs (DWA) for the SWD (NWA Section 21 (g)) on 21 February 2012.

HydroScience will undertake the NEMA Section 24G rectification process (Figure 1) and facilitate the public participation process (PPP). The NEMA Section 24G rectification application form was completed and submitted to the MDEDET and a reference number was received on 4 September 2013 (17/2/10/24G NK 05/13) and will be handled by Mr KQ Shakwane at the MDEDET office in Witbank (013 692 5848/6300/5806).

2. PURPOSE OF THIS DOCUMENT

The purpose of this document is to provide background information (in addition to the notices on the site and published in the newspaper) in terms of Government Notice Regulation (GNR) 543 (Sections 54 through 57) of NEMA to all Interested and Affected Parties (I&APs) regarding the intention of the project as described above.

In addition, this document will provide a platform from which to obtain comments and contributions from stakeholders with regard to the potential/current environmental impacts of the project as part of the PPP. The aim of the PPP is not only to adhere to the required legislation, but also to give as many stakeholders and I&APs as possible an opportunity to be actively involved in this process.

The PPP will be carried out in accordance with Chapter 6 of NEMA as amended and in support of the Environmental Impact Assessment (EIA) Regulations, 2010 and associated guidelines.

3. ROLE OF I&APs

You are invited to register as an I&AP (see contact details and registration form attached) and to assist us in:

- Identifying issues of concern that need to be investigated as well as possible impacts of the project on the environment;
- Suggesting alternatives to mitigate possible negative impacts and enhance positive impacts.

Your input is considered valuable as it contributes to:

- The decision-making process;
- Information on public needs, values and expectations; and
- Local and traditional knowledge.

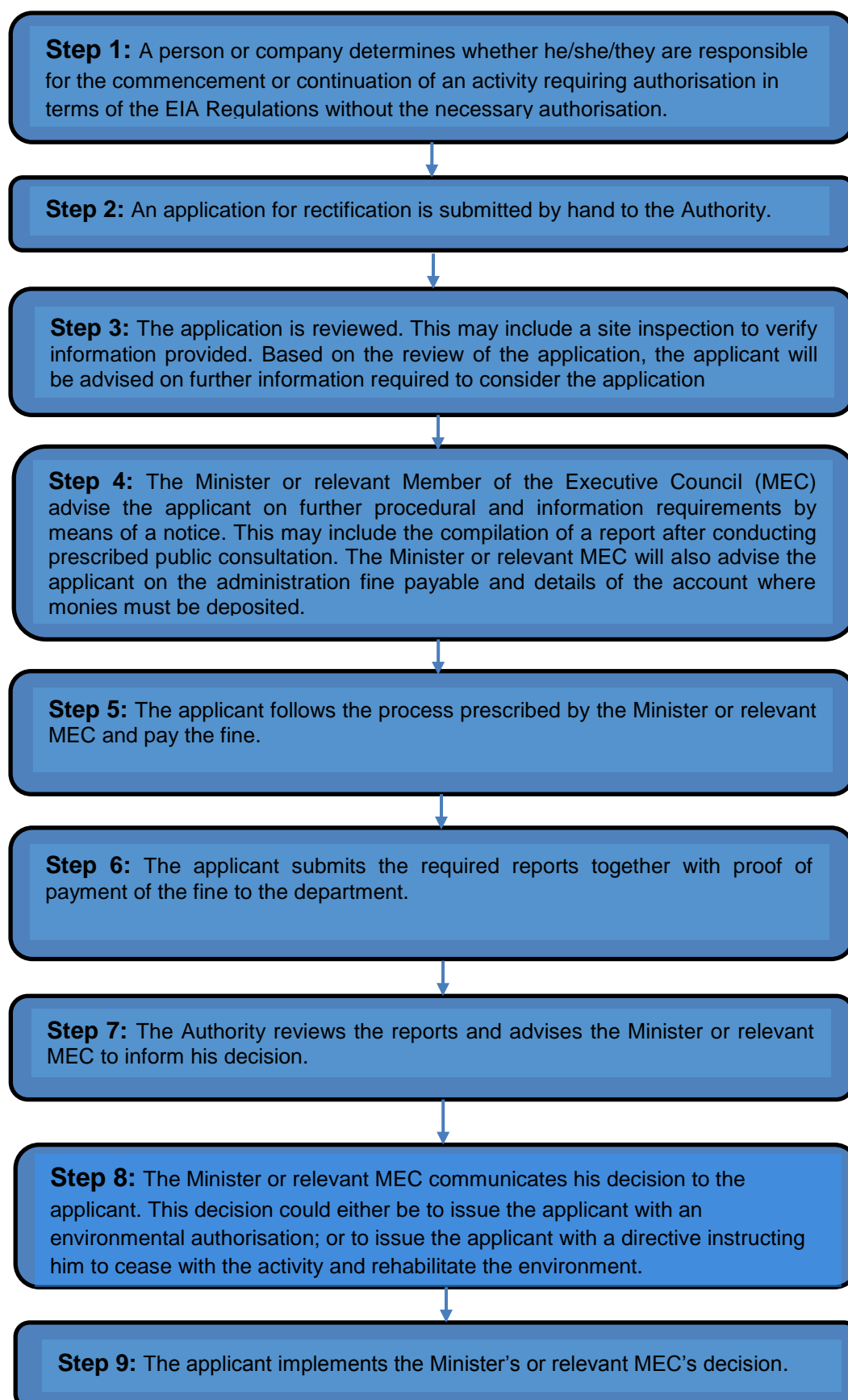


Figure 1: Simplified diagram presenting the Section 24G rectification process

4. PROJECT

4.1. Project motivation

History:

VVP is one of the world's top five vanadium (V) producers and its assets comprise various vanadium oxides, Ferro-vanadium and vanadium chemical facilities.

The operations started in 1957 as a division of Highveld Steel and Vanadium Corporation Ltd, and in 2008, Duferco Vanadium Investment Holdings SA, a company incorporated in Luxembourg, purchased the Vanchem operations from Evraz Highveld Steel and Vanadium Corporation Ltd.

VVP as a company and through its Board of directors and Shareholders has a strong sense of environmental responsibility. VVP therefore conducted environmental audits on its plant and operations, with the objective of establishing if any structures or activities may have proceeded without the necessary authorisations and licenses, in the past. As part of this process, VVP identified a number of structures/activities that may have required authorisations prior to construction/starting. VVP then decided to approach the authorities and request a once-off opportunity to correct the "sins of the past" through a NEMA Section 24G rectification process.

Market and contribution to the economy:

VVP is one of the top five suppliers of Vanadium products in the world. 5% of its products are used locally and 95% are exported to Europe, Asia and America. This generates a significant foreign income for the South African economy. VVP further contributes R800 million to the local economy through labour, contractors and suppliers.

Job creation:

VVP plays a significant role in the job creation market as it employs 425 people on a permanent basis and has another 300 contract workers. As a company, it therefore supplies work and a direct income to a significant number of people and households. This equates to hundreds of families benefiting from the work created by VVP. More than 80% of the individuals employed come from previously disadvantaged groups. Preference for employment is also given to the local communities and currently 90% of the workforce is from the local community. Over 95% of the companies' suppliers are procured locally.

Location:

All structures are located and activities are undertaken on the plant of VVP which is located in an industrial area (Ferrobank in Emalahleni), which is very disturbed with no biodiversity to protect or conserve. The impact on the natural environment is therefore minimal to negligible.

4.2. Project objective

Continued operations:

VVP needs to ensure the uninterrupted long-term continued and efficient operation of its plant in order to supply its customers (local and international) with products. VVP further needs to comply with the latest legislation and implement best practice to ensure its plant and operations keep up with latest and cleaner technology while considering minimizing its overall impact on the receiving surrounding environment.

Pregnant Solution Tank:

A 1 000m³ steel tank has been constructed in January 2007 and is in use to store pregnant solution, a Vanadium-rich solution. The purpose is to create extra storage for an interim product from the Extraction Section prior to further processing in the Oxide Section and Chemical Plant to produce final products. The storage tanks for interim storage of products such as pregnant solution is required to keep production going and supply the market.

Condensate tanks:

Two (2) steel tanks, each with 380m³ capacity, have been constructed in April 2011 and are used to contain condensate generated by the Mechanical Vapour Recompression (MVR). The purpose is extra storage for condensate to prevent release and allow reuse. Condensate was previously released/discharged due to insufficient storage capacity on the site. This water can be used in the process as make-up water. The storage was therefore required to maximize the reuse of the water, minimize municipal intake (water conservation) and prevent discharges (zero effluent plant).

Storm Water Dam:

A <30 000m³ storm water dam was constructed in April 2009 and is in use to allow the separation of clean and dirty water on the property, to capture and contain potentially contaminated run-off from the property for reuse in the process. The interceptor dam which was previously used to capture contaminated storm water as well as process spillages, had insufficient capacity (4 600m³) and was not constructed in accordance with the latest legislation (in terms of lining etc). The interceptor dam therefore had to be decommissioned to prevent discharges (zero effluent). The decommissioning and closure of the interceptor dam was authorized by MDEDET (17/2/3N-138). In order to comply with latest legislation and best practice in terms of storm water management, a new storm water dam was required to capture and contain all potentially contaminated runoff generated on the site from storm events and to only spill during a 1:50 year storm event. Water from the storm water dam is reused on the site. The storm water dam was licensed under Section 21(g) of the NWA, Licence 04/B11K/CGI/1617.

4.3. Project locality

The pregnant solution tank, condensate tanks and SWD are located within the VVP plant area on Erven 4 and 94, Van Eck Road, Ferrobank Industrial Area, eMalahleni, Mpumalanga Province. The site is located approximately 10 km west of eMalahleni Central Business District (CBD) and is accessed from Van Eck Road. Global positioning system (GPS) coordinates are

Pregnant solution tank: 25° 51' 42.0012" South and 29° 09' 51.9978" East

Condensate tanks: 25° 52' 0.9984" South and 29° 09' 55.0008" East

SWD: 25° 51' 39.9996" South and 29° 09' 51.9978" East

Please refer to the locality maps – Figure 2 and Figure 3.

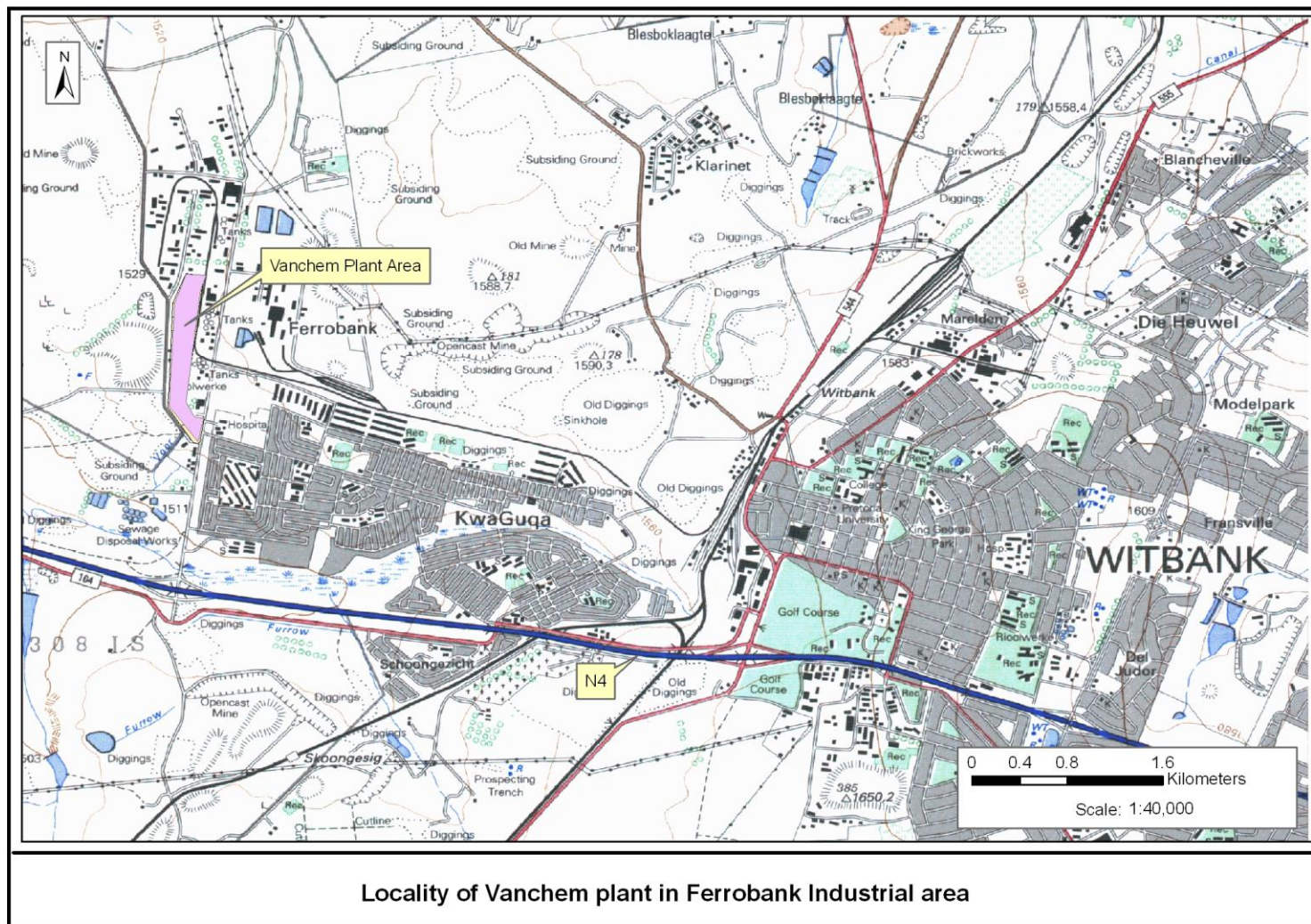


Figure 2: Regional locality of the VVP plant in Ferrobank, eMalahleni, Mpumalanga Province



Figure 3: Google™ image showing locality of infrastructure within the VVP plant area

4.4. Project description

The property covers 23 Ha in total and the areas occupied by the infrastructure relating to this project covers approximately 2ha.

Pregnant Solution Tank:

Construction date: January 2007
Structure: 1 000m³ steel tank
Use: Storage of pregnant solution.
Contain: Pregnant solution, a Vanadium-rich solution produced in the Extraction section (water soluble vanadium salt) as interim product
Requirement: Storage of interim product to ensure continuous, uninterrupted production in the Oxide Section and Chemical Plant to supply market



Condensate tanks:

Construction date: April 2011
Structure: Two (2) steel tanks, 380m³ each
Use: Storage of condensate
Contain: Condensate generated by the MVR which treats barren solution to yield condensate and salts
Requirement: Storage of condensate to prevent release/discharge due to insufficient storage (in the past) and allow reuse in the process as make-up water. The storage therefore maximizes reuse of water, minimize municipal intake (water conservation) and prevent discharges (zero effluent plant).



Storm Water Dam:

Construction date:	April 2009
Structure:	<30 000m ³ storm water dam with HDPE lining, silt traps at inflow, leachate detection system and spillway (1:50 year storm event)
Use:	Storage of potentially contaminated storm water runoff from plant
Contain:	Potentially contaminated storm water runoff from plant
Requirement:	Separation of clean and dirty water in an engineered storm water management system. Capture and contain potentially contaminated run-off from the property for reuse in the process.
Legal:	Licensed (04/B11K/CGI/1617) under Section 21(g) of the NWA

**4.5. Project schedule**

Construction took place between 2007 and 2011. Operation will continue for as long as the plant exists. The NEMA Section 24G rectification process will take approximately six (6) months.

4.6. Additional Work

The following additional work was conducted in terms of the Storm Water Dam:

- A geotechnical investigation (Africa Exposed)
- A Section 21(g) WUL application in terms of the NWA (Pulles, Howard & De Lange). This WUL, Licence 04/B11K/CGI/1617, was issued in 2012 by DWA.
- Runoff calculations and storm water volume determinations (Prime Resources)
- Engineering designs (PD Naidoo & Associates).

5. POTENTIAL IMPACTS

Preliminary predictions of possible impacts that may occur indicate mostly positive impacts as a result of these structures due to the following:

- No additional use of municipal services in terms of electricity/power, water supply, sewage management and waste management in a municipal area that is already under strain in terms of service delivery. Municipal water supply is actually reduced due to optimisation of reuse of water already on the site (condensate and storm water).
- No additional visual, land use characteristics or biodiversity impacts as infrastructure is located within the VVP plant in an already disturbed industrial area.
- Containment of interim products (pregnant solution) to optimise production and to ensure an efficient, uninterrupted production process.

- Capturing and containment of potentially contaminated water for reuse to reduce municipal water intake, maximise reuse on the plant and prevent discharges/releases (zero effluent).

An Environmental Management Programme (EMP) will be compiled as part of this process and project.

6. APPLICABLE LEGISLATION

A NEMA Section 24G rectification application has been submitted to the MDEDET (Reference number 17/2/10/24G NK 05/13 with Mr KQ Shakwane at MDEDET on 013 692 5848).

Notification, in the form of site notices and an advertisement placed in the Witbank News (19/20 September 2013) as well as Background Information Documents (BID), was given to all I&APs, as prescribed in Chapter 6 of NEMA, informing them that a report based on the Section 24G rectification process will be submitted to the relevant authority (MDEDET) to obtain environmental authorisation for the project as set out in Section 4 of this document.

The following listed activities, which require rectification due to unlawful commencement and continuation were identified in terms of the relevant legislation:

NEMA: GNR 544 (18 June 2010):

28 – The expansion of existing facilities for any process or activity where such expansion will result in the need for a new permit or licence in terms of national or provincial legislation governing the release of emissions or pollution, excluding

The storm water dam required a WUL in terms of the NWA.

NEMA: GNR 545 (18 June 2010):

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.

Both the pregnant solution (1 000m³) and condensate (760 m³) storage containers which were constructed exceed 500m³ and both the pregnant solution and condensate may be classified as dangerous goods.

NEMA: GNR 386 (2006) (applicable as some infrastructure was established prior to 2010):

7 – The above ground storage of a dangerous good, including petrol, diesel, liquid petroleum or paraffin, in containers with a combined capacity of more than 30 cubic metres but less than 1 000cubic metres at any one location or site.

The pregnant solution may be classified as a dangerous good and the storage tank of 1 000m³ was constructed above ground in 2007 prior to the 2010 EIA regulations.

25 – The expansion of or changes to existing facilities for any process or activity, which requires an amendment of an existing permit or licence or a new permit or licence in terms of legislation governing the release of emissions, pollution, effluent unless the facility

The storm water dam which was constructed in 2008 (prior to 2010 EIA regulations) required a new WUL in terms of the NWA.

7. PROCESS AND WAY FORWARD

- An application for a NEMA Section 24G rectification for the unlawful commencement and continuation of listed activities has been submitted to MDEDET. The reference number: 17/2/10/24G NK 05/13 has been assigned and the application will be handled by Mr KQ Shakwane at MDEDET in Witbank, reachable on 013 692 5848
- Notices have been placed in the Witbank News and on the site (19/20 September 2013).
- Further notification and BIDs are to be delivered by hand, fax, post or email to all identified I&APs, including neighbours, authorities and other stakeholders on 19 September 2013.
- Comments and/or completed registration forms from I&APs should be received on or before 31 October 2013.
- A draft report, including an EMP and PPP report, based on the NEMA Section 24G rectification process will become available for public review during October 2013. Registered I&APs will be notified of this.
- A final report based on the NEMA Section 24G rectification process, incorporating comments received on the draft report, will be submitted to the MDEDET for their review and a decision no later than December 2013.

8. CONTACT DETAILS

Please complete the attached form or contact the person below should you wish to be registered as an I&AP or make any comments regarding this project.

HydroScience cc

Person: Paulette Jacobs
Tel: 082 850 5482
Fax: 086 692 8820 / 086 588 1770
E-mail: paulette@hydroscience.co.za
Postal address: P.O. Box 1322, Ruimsig, 1732

COMPLETE & FAX OR E-MAIL TO:

HYDROSCIENCE 086 692 8820 / 086 588 1770 / paulette@hydroscience.co.za

**NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT 107 OF 1998) SECTION 24G
RECTIFICATION FOR THE UNLAWFUL COMMENCEMENT AND CONTINUATION OF LISTED
ACTIVITIES ON THE VANCHEM VANADIUM PRODUCTS SITE IN FERROBANK, eMALAHLENI,
MPUMALANGA PROVINCE - REF: 17/2/10/24G NK05/13**

INTERESTED AND AFFECTED PARTY REGISTRATION AND COMMENT SHEET

Title:	Mr		Mrs		Ms		Dr	
Surname:				First name & initials:				
Organisation / Company:								
Postal / physical address:				Postal code:				
Tel:				Fax:				
Email:				Cell:				
Interest in approval or refusal:	Business:	YES	NO	Preferred method of notification / communication	Post/mail:			
	Financial:	YES	NO		Fax:			
	Personal:	YES	NO		Email:			
Details of interest:								
Name of other I&AP to be contacted:								
Contact details:								

Comments: (please use separate sheets if you wish/require)

Thank you for your comments, participation and time. Your contribution is appreciated and will form part of the final submission to the authority for decision-making.