

PPC Ltd



## ENVIRONMENTAL MANAGEMENT PROGRAMME

FOR

THE PROPOSED MILLING OF SLAG AT THE PPC  
JUPITER SITE, CITY OF JOHANNESBURG, GAUTENG

June 2013  
J31369

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**GAUTENG PROVINCE**  
AGRICULTURE AND RURAL DEVELOPMENT  
REPUBLIC OF SOUTH AFRICA

# 1 INTRODUCTION

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The proponent, PPC Ltd (PPC) wishes to process slag by the application of heat at their existing Jupiter site in Germiston, City of Johannesburg, Gauteng Province. PPC, as the project proponent, has appointed GIBB (Pty) Ltd (GIBB) as the Independent Environmental Assessment Practitioner (EAP) to undertake the Basic Assessment process for the proposed operation. PPC has applied to the Gauteng Department of Agriculture and Rural Development (GDARD) for environmental authorisation.

This Environmental Management Programme was compiled as part of the Environmental Authorisation Process, required by the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA). The EMP will look at the potential environmental impacts the proposed Slag Milling process could have on the environment and which mitigation and monitoring procedures will need to be put in place to manage these impacts with the smallest environmental footprint possible.

The preferred fuel to be used in the slag milling process will be Low Pressure Gas (LPG). It is envisaged that 95 % of LPG will be used and supplemented by 5 % Diesel or FFS Light Oil 10 (LO10) as and when needed. The Gas will be delivered to the combustion chamber which will be installed on Raw Mill 3 by either a portable trailer or a pipeline. It is estimated that 12 - 14m<sup>3</sup> of gas will be used per day.

Based on the above information, the following listed Activities in terms of the Environmental Impact Assessment Regulations, 2010 have been applied for:

Government Notice No 544, Listing Notice 1:

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.

28) The expansion of or changes to existing facilities for any process or activity where such expansion or changes to will result in the need for a permit or license in terms of national or provincial legislation governing the release of emissions or pollution, 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 that Act will apply.

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## 1.1 Applicable Documentation

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The following environmental documentation is applicable for the project, and should be read in conjunction with this Environmental Management Programme (EMP):

- Basic Assessment Report for the PPC Jupiter – proposed Slag Milling;

- Environmental Authorisation issued by the GDARD (once issued). Cognisance of the Environmental Authorisation must be taken once it has been issued. Where necessary, this EMP must be amended to comply with this Environmental Authorisation;
  - Permits or licences that may need to be acquired at the time of construction such as an amended Air Emissions License in terms of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004); and
  - All acts, ordinances and by-laws relevant to the proposed project.
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## **1.2 Structure of the Environmental Management Programme**

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The EMP provides mitigation and management measures for the following phases of the project:

- **Construction Phase**

This section of the EMP provides management principles for the construction phase of the project. Environmental actions, procedures and responsibilities as required within the construction phase are specified. These specifications shall form part of the contract documentation and, therefore, the Contractor will be required to comply with the specifications to the satisfaction of the Project Co-ordinator and Environmental Control Officer, in terms of the construction contract.

- **Operation Phase**

This section of the EMP provides management principles for the operation phase of the project. Environmental actions, procedures and responsibilities as required from PPC within the operation phase are specified.

- **Decommissioning Phase**

Due to the fact that it is an existing site, and that the majority of the infrastructure is existing infrastructure that can fulfil a dual purpose (i.e. either mill slag or produce clinker), it is not envisaged that the facility will be decommissioned in the near future.

It should be noted that this EMP is a dynamic document which should be updated as and when required on a continuous basis. Any amendments made must be submitted to both the Environmental Control Officer and Proponent for approval prior to implementation. Based on the nature of the development decommissioning is not envisaged.

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## **1.3 Objectives of the EMP**

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The EMP has the following objectives:

- To outline functions and responsibilities of responsible persons;

- To state standards and guidelines which are required to be achieved in terms of environmental legislation;
- To outline mitigation measures and environmental specifications which are required to be implemented for all phases of the project in order to minimise the extent of environmental impacts, and to manage environmental impacts; and
- To prevent long-term or permanent environmental degradation.

## **2 FUNCTIONS AND RESPONSIBILITIES**

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Formal responsibilities are necessary to ensure that key procedures are executed. Specific responsibilities of the various personnel for this project are detailed below.

### **The Developer / Proponent:**

- The proponent (PPC (Ltd)) is ultimately accountable for ensuring compliance to the EMP and conditions contained in the Environmental Authorisation (EA). The ECO must be contracted by the developer (PPC) as an independent appointment to objectively monitor implementation of relevant environmental legislation, conditions of EA's, and the EMP for the project.
- The developer is further responsible for providing and giving a mandate to enable the ECO to perform responsibilities. The developer must ensure that the ECO is integrated as part of the project team.

### **The Consulting Engineer (CE):**

- Contracted by the developer to design and specify the project engineering aspects. Generally the engineer runs the works contract. The CE may also fulfil the role of Project Manager on the proponent's behalf.

### **Project Manager (PM):**

- The Project Manager has over-all responsibility for managing the project, contractors, and consultants and for ensuring that the environmental management requirements are met. The CE may also act as the PM. All decisions regarding environmental procedures must be approved by the PM. The PM has the authority to stop any construction activity in contravention of the EMP in accordance with an agreed warning procedure.

### **Engineers Representative (ER):**

- The consulting engineer's representative on site. Has the power/mandate to issue site instructions and in some instances, variation orders to the contractor, following request by the EO or ECO. The ER oversees site works, liaison with Contractor and ECO.

### **Environmental Officer / Environmental Manager (EO):**

- Appointed by the Consulting Engineers as their environmental representative on site. The EO is not independent but must rather act on behalf of the consulting engineers with the mandate to enforce compliance under the project contract, which must include the EMP. The EO has the directive to issue non-conformance and hazard certificates. Further, in terms of accepted industry practice the EO could issue the equivalent of a "cease works" instruction only in exceptional circumstances where serious environmental harm has been or is about to be caused i.e. in cases of extreme urgency and then only when the ER is absent.
- The EO must form part of the project team and be involved in all aspects of project

planning that can influence environmental conditions on the site. On certain types of projects, such as linear developments (fences, pipelines, etc.), the EO must also be the liaison between the contractor and landowners (where required).

- The EO must attend relevant project meetings, conduct daily inspections to monitor compliance with the EMP, and be responsible for providing reports and feedback on potential environmental problems associated with the development to the project team and ECO.
- The EO must convey the contents of this EMP to the Contractor site team and discuss the contents in detail with the Contractor as well as undertake to conduct an induction and an environmental awareness training session prior to site handover to all contractors and their workforce.
- The EO must be suitably experienced with the relevant qualifications and preferably competent in construction related methods and practices.

#### **The Environmental Control Officer (ECO):**

- An independent appointment to objectively monitor implementation of relevant environmental legislation, conditions of EA, and the EMP for the project. The ECO must be on site prior to any site establishment and must endeavour to form an integral part of the project team.
- The ECO must be proactive and have access to specialist expertise as and when required, these include geologists, heritage specialists, etc.
- The ECO must conduct audits on compliance to relevant environmental legislation, conditions of EA, and the EMP for the project. The size and sensitivity of the development, based on the EIA, and the EA will determine the frequency at which the ECO will be required to conduct audits. (A minimum of a monthly site inspection must be undertaken).
- The ECO must be the liaison between the relevant authorities and the project team. The ECO must communicate and inform the developer and consulting engineers of any changes to environmental conditions as required by relevant authoritative bodies. The ECO must ensure that the registration and updating of all relevant EMP documentation is carried out.
- The ECO must be suitably experienced with the relevant environmental management qualifications and preferably competent in construction related methods and practices.
- The ECO must handle information received from whistle blowers as confidential and must address and report these incidences to the relevant Authority as soon as possible.
- *It should be noted that based on the nature and scale of the development it is recommended that the EO fulfil the relevant duties of the ECO. However should the Environmental Authorisation require an ECO, then this condition must be complied with.*

#### **The Contractor:**

- Is to ensure that the environmental specifications of this document (including any revisions, additions or amendments) are effectively implemented. This includes the on-site implementation of steps to mitigate environmental impacts.
- Will ensure that all Employees and co-contractors employed comply with the requirements and provisions of the EMP.

- Prepares method statements.
- Monitors environmental performance and conformance with the specifications contained in this document during daily site inspections.
- Discusses implementation of and compliance with this document with staff at routine site meetings;
- Reports progress towards implementation of and non-conformances with this document at site meetings with ECO.
- Will notify the ECO of the anticipated programme of works and fully disclose all details of activities involved.
- Will ensure that suitable records are kept and that the appropriate documentation is available to the ECO.
- Will Notify the ECO of all incidents, accidents and transgressions on site with respect to environmental management as well as requirements of the EMP and corrective actions/remedial action taken.
- Reports and record all accidents and incidents resulting in injury or death.
- Informs the ECO of problems arising when implementing the EMP and ways of improving the EMP.
- Informs the ECO of any complaints received.

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## 2.1 General Guidelines

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The following measures provide guideline solutions to frequently anticipated issues on most development activities:

- The prevention of any site degradation due to non-compliance, administrative or financial problems, and inactivity during the construction phase, illegal activities, delays caused by archaeological finds etc. is ultimately the responsibility of the applicant/developer. Section 28, National Environmental Management Act, 1998 (Act No. 107 of 1998) [NEMA].
- The study area must be clearly defined according to the project authorisation. All workforce members and other construction personnel are not to go beyond the designated footprint.
- The Contractors must adhere to agreed and approved access points and haul roads.
- No camping is allowed on any private property.
- Damage to private or public property such as fences, gates and other infrastructure may occur at any time. All damage to be repaired immediately and to the satisfaction of the owner.
- The Contractor must adhere to all conditions of contract including this EMP.
- Proper planning of the construction process must be undertaken to allow for disruptions due to rain and very wet conditions.
- All private and public manmade structures near the project site must be protected against damage at all times and any damage must be rectified immediately.
- Proper site management and regular monitoring of site works.
- Proper documentation and record keeping of all complaints and actions taken.

- Regular site inspections and good control over the construction process throughout the construction period.
  - A positive attitude towards Environmental Management by all site personnel must be motivated through regular and effective awareness and training sessions.
  - An EO, on behalf of the Contractor, is to be appointed to implement this EMP. The EO and not the Contractor is to deal with any landowner related matters.
  - Environmental Audits to be carried out prior, during and upon completion of construction.
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## **2.2 Awareness Training**

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The EO or ECO where an EO is not appointed, is responsible for ensuring everyone on site is given an environmental awareness induction session which not only clearly defines what the environment is and gives specifics detailing the local environment but outlines the requirements of the EMP as a management tool to protect the environment.

Refresher courses must be conducted as and when required. The EO must ensure daily toolbox talks include alerting the workforce to particular environmental concerns associated with the tasks for that day or the area/habitat in which they are working. Awareness posters and a hand out must be produced to create awareness throughout the site (as needed).

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## **2.3 Contractor Environmental Method Statements**

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Method Statements are written submissions to the Engineer by the Contractor, in collaboration with his/her EO, in response to a request by the Engineer. The Method Statements set out the plant, materials, labour and method that the contractor proposes using to carry out an activity, identified by the EO and/or Engineer. The Method Statements contain the appropriate detail such that the EO and Engineer are able to assess whether the Contractor's proposal is in accordance with the requirements of the EMP. The contractor must sign each Method Statement along with the EO and Engineer to formalise the approved Method Statement.

All Method Statements including those which may be required as ad hoc or emergency construction method statements must be submitted to the Engineer for approval prior to the commencement of the activity.

Any changes to the method of works must be reflected by amendments to the original approved Method Statement. Any changes in this regard must be approved by the EO and Engineer on the understanding that such changes are environmentally acceptable and in line with the requirements of this EMP.

The pro forma Method Statements attached (amongst others) must be used and method statements for the following activities must be submitted to the EO, ECO and Engineer for approval before construction commences:

- Solid waste management;
- Crew camps and construction lay down areas;
- Cement and concrete batching;
- Dust control;
- Hydrocarbon and emergency spills procedures; and
- Fire.

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## 2.4 Site Documentation

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The following is a list of documentation amongst others, which must be held on site and must be made available to the ECO and/or Approving Authority on request.

- Site daily diary /instruction book/ Incident reports;
- Records of all remediation / rehabilitation activities;
- Copies of ECO reports (management and monitoring);
- Environmental Management Programme (EMP);
- Complaints register;
- Method statements; and
- Environmental Authorisation.

### 2.4.1 Pro forma Documentation

#### **(a) Prior to the commencement of construction activities**

The following attached *pro forma* documentation is to be filled out and is binding to the EMP and project contract and includes, but is not limited to the following:

- Declaration of understanding by the Developer;
- Declaration of understanding by the Engineer;
- Declaration of understanding by the Contractor;
- Method statements; and
- ECO / Engineer approval for method statements.

#### **(b) During construction activities**

The following attached pro forma documentation is to be filled out and maintained. These are binding to the EMP and project contract. They include, but are not limited to, the following:

- Amended Method Statements;
- ECO / Engineer approval for amended method statements;
- Environmental incidents; and
- Records of all remediation / rehabilitation activities.

### 3 ENVIRONMENTAL MANAGEMENT REQUIREMENTS

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#### 3.1 Section A: Planning and Pre-construction Phase Activities

A.1. Construction Camp set up (if required)		Responsibility	Frequency	Notes
<p>Careful planning of the construction camp can ensure that the time and costs associated with environmental management and rehabilitation are reduced.</p>	<p><b>A.1.1 Layout</b></p> <p>(a) The choice of the Contractor's camp requires the Project Manager's permission and must ensure that the camp is located in an area that will ensure a minimum impact.</p> <p>(b) The contractor should submit plans of exact location, extent and construction details of the temporary construction camp facilities to the Project Manager for approval, prior to establishment of the camp.</p> <p>The layout plans should reflect the proposed camp's location in relation to any existing infrastructure (water mains, electricity cables, sewage mains, etc.) on site.</p> <p>Access to the construction camp must be through an existing route or one that is clearly demarcated and agreed upon.</p> <p>(c) The construction camp can comprise of the</p>	<p>PM</p>	<p>Prior to moving on site</p>	

	<p>following (as required):</p> <ol style="list-style-type: none"> <li>a. Site office</li> <li>b. Ablution facilities</li> <li>c. Designated first aid area</li> <li>d. Eating area</li> <li>e. Storage areas</li> </ol>			
	<p><b>A.1.2 Ablutions</b></p> <p>(a) Existing ablution facilities at the PPC Jupiter site will be used.</p>			
	<p><b>A.1.3. Provision for camp waste disposal</b></p> <p>(a) Bins and skips shall be provided at convenient intervals for disposal of waste within the construction camp / site.</p> <p>(b) Recycling and provision of separate waste receptacles for different types of waste should be encouraged.</p>	PM/Contractor	On-going	
<b>A.2. Establishing storage areas</b>		<b>Responsibility</b>	<b>Frequency</b>	<b>Notes</b>
Storage areas can be hazardous and unsightly. These storage areas can also cause environmental pollution if not designed and managed properly.	<p><b>A.2.1. General Substances and Materials</b></p> <p>(a) When deciding on the location of temporary stockpiles, the following needs to be considered:</p> <ul style="list-style-type: none"> <li>• road access,</li> <li>• length of time the stockpile will exist.</li> </ul> <p>(b) Additionally all stockpiles should be located away from sensitive ecosystems and protected from the prevailing winds.</p>	EO/ECO approval	During site set up.	

	<p>(c) Storage areas must be designated, demarcated and fenced if necessary.</p> <p>(d) Storage areas should be secured, to minimize the risk of crime and contamination.</p>			
	<p><b>A.2.2 Hazardous Substances and Materials</b></p> <p>(a) Should it happen that there is a need to store fuel on site; it must be stored in a bunded area with at least a volume of 110% of the largest tank.</p> <p>(b) No smoking shall be allowed in the vicinity of the fuel storage area. Erect at least one no-smoking warning sign, which is clearly visible at the fuel storage area, to warn all staff of associated dangers.</p> <p>(c) Provide adequate firefighting equipment at or close to the fuel storage and dispensing area(s).</p> <p>(d) Keep fuel under lock and key at all times.</p> <p>(e) Hazardous chemical working/refueling areas must be bunded with an impermeable liner.</p> <p>(f) Ensure that there is always a supply of absorbent material readily available to absorb/break down any hydrocarbon spillage.</p> <p>(g) In the case of a spill, contaminated material must be removed from the site immediately and disposed of at an appropriate hazardous waste facility.</p>	EO/ECO approval	During site set up	

A.3. Education of site staff on general Environmental Conduct		Responsibility	Frequency	Notes
<p>These points must be communicated to all staff before the project commence on site.</p>	<p><b>A.3.1. Environmental Education and Awareness</b></p> <p>Ensure that all site personnel have a basic level of environmental awareness training. Topics covered should include:</p> <ul style="list-style-type: none"> <li>• What is meant by 'Environment'?</li> <li>• Why do we have to protect the environment?</li> <li>• How construction activities can impact on the environment.</li> <li>• How can these impacts be mitigated.</li> <li>• Awareness of emergency and spills response provisions.</li> <li>• Social responsibility during construction e.g. being considerate to local residents.</li> </ul> <p>It is the contractor's responsibility to provide the site foreman with no less than 1 hour's environmental training and to ensure that the foreman has sufficient understanding to pass the information onto the construction staff.</p> <p>(a) Translators are to be used where necessary.  (b) The use of pictures and real-life examples is encouraged as these are easier to remember.  (c) The need for a 'clean site' policy also needs to be explained to the construction workers.</p>	EO/ECO	During staff induction	

	<p><b>A.3.2. Worker Conduct on Site</b></p> <p>Under no circumstances may open areas or surrounding bush be used as toilet facilities.</p> <p>A general regard for the social and ecological well-being of the site and adjacent areas is expected of the site staff. Workers need to be made aware of the following general rules:</p> <ul style="list-style-type: none"> <li>• No alcohol/drugs to be present on site.</li> <li>• No fire arms allowed on site or in vehicles transporting staff to/from the site (unless by security personnel.) / PPC policy will be implemented in this regard.</li> <li>• Construction staff is to make use of facilities provided for them, as opposed to ad hoc alternatives.</li> </ul>	PM/Contractor	During staff induction, followed by on-going monitoring.	
<b>A.4. Water Quality</b>		<b>Responsibility</b>	<b>Frequency</b>	<b>Notes</b>
Incorrect disposal of substances and materials and polluted run-off can cause serious negative impacts on surrounding water resources.	<p><b>A.4.1. Water Quality</b></p> <p>(a) Equipment and machinery must be in good operation condition, clean (power washed), free of leaks, excess oil and grease.</p> <p>(b) Ensure that machinery is operated by a skilled driver who has been trained to use it correctly and who will be able to identify if something is wrong with the engine and conduct regular inspections identifying engine related leaks.</p>	EO/ECO	During site set up.	

A.5. Set up of waste management activities		Responsibility	Frequency	Notes
	<p><b>A.5.1 Waste management</b></p> <p>(a) A dedicated area must be allocated for waste sorting and storage.</p> <p>(b) Individual waste skip or wheelie bins for different types of waste should be provided (if none currently exist).</p>	EO/ECO	During site set up	
A.6. Security and safety		Responsibility	Frequency	Notes
	<p><b>A.6.1. Risk Associated with materials on site</b></p> <p>(a) Material stockpiles or stacks such as cement, steel, bricks, corrugated iron sheeting, plastic piping, etc. must be stable and well packed to avoid collapse and possible injury to site workers, stockpiles must also be covered to avoid seepage and ground water pollution (where applicable).</p> <p>(b) No materials are to be stored in unstable or high risk areas such as in close proximity of the entrance road, excavated areas, etc.</p>	PM/Contractor	On-going	

### 3.2 Section B: Construction Phase Activities

B.1. Site Access		Responsibility	Frequency	Notes
	<p><b>B.1.1 Access to the site</b></p> <p>(a) Existing access to the existing site will be used.</p>			
B.2. Maintenance of construction camp		Responsibility	Frequency	Notes
	<p><b>B.2.1 Ablution</b></p> <p>(a) The existing ablution facilities on site will be used and maintained as per normal operations at the PPC Jupiter site.</p>			
	<p><b>B.2.2. Eating Areas</b></p> <p>(a) Eating areas should be serviced and cleaned regularly to ensure the highest possible standards of hygiene and cleanliness.</p> <p>(b) All litter throughout the site should be picked up and placed in the appropriate recycling bins provided.</p>	Contractor	Weekly inspection	
	<p><b>B.2.3. Housekeeping</b></p> <p>(a) The contractor shall ensure that his camp and working areas are kept clean and tidy at all times.</p>	Contractor	Weekly	

B.3. Staff Conduct		Responsibility	Frequency	Notes
	<p><b>B.3.1. Environmental Education and Awareness / Safety</b></p> <p>(a) The contractor must monitor the performance of construction workers to ensure that all the topics that were covered in the induction meeting is properly understood, and followed.</p>	Contractor	Daily	Toolbox talks and lunchtime Q&A.
B.4. Waste Management		Responsibility	Frequency	Notes
<p>Activities in the construction site such as office work, usage of construction materials, etc., generate different types of waste that requires to be managed properly. These wastes could result in environmental pollution such as soil contamination/ pollution or health hazards to employees working on-site, if not managed properly.</p>	<p><b>B.4.1 On-site waste management</b></p> <p>(a) Waste is grouped into “general” or “hazardous”, depending on its characteristics. The classification determines the handling methods and the ultimate disposal of the material. The Contractor/ECO must classify waste into general or hazardous based on the toxicity or hazard nature of waste.</p> <p>(b) Waste must be placed in the designated or marked skips/bins which must be emptied on a regular basis by a contracted waste collector. These should remain within the demarcated areas and should be designed to prevent refuse from being blown out by wind.</p> <p>(c) Separation of waste and recycling of paper, glass, cans, scrap, metals, plastic bottles, etc., must be considered prior to disposal. The disposal at the landfill site should be considered as the last option, after having taken into consideration the prevention of waste generation, reduction waste generation, reuse and recycling.</p>	Contractor/EO/PM	<p>During the start-up of construction on site and on-going thereafter.</p> <p>During waste collection Prior to signing an agreement with the waste removal contractor.</p>	ECO and PM needs to ensure that all construction staff is educated on waste management.

	<p>(d) Hazardous waste that require disposal (oily rags, used fuel/oil, etc.) must be placed in a suitable leak proof skip or wheelie bin for disposal at an approved hazardous waste disposal facility.</p> <p>(e) The contractor is responsible for arranging the removal of all waste from site generated through construction activities. Waste must be removed to a registered, appropriate disposal and recycling facilities.</p> <p>(f) No burning and littering of waste on site should be allowed.</p> <p>(g) Request the following from the waste contractors that are used to collect waste:</p> <ul style="list-style-type: none"> <li>• Copies of the weighbridge receipt from the waste removal contractor for all waste collected on site.</li> </ul>			
<b>B.5. Construction vehicles / equipment</b>		<b>Responsibility</b>	<b>Frequency</b>	<b>Notes</b>
Engine machines such as compressors, pumps, air conditioners and arc welders can have small leaks (usually oil) that can accumulate to become spills, which require clean-up. These leaks become more evident if the equipment remains in the same place for an extended period of time. Damaged fuel tanks, fuel	<p><b>B.5.1 Construction equipment</b></p> <p>(a) Vehicles and machinery are to be kept in good working order and to meet manufactures specification for safety, fuel consumption and emission.</p> <p>(b) Should excessive emissions be observed, the site manager needs to implement an effective vehicle and equipment service and maintenance plan.</p> <p>(c) Vehicle parking and equipment storage must be done on a hardened and sealed surface</p>	Contractor / EO	On going	Contractor must follow a detailed checklist for machinery and equipment maintenance.

<p>hoses, and fuel pumps can be sources of significant fuel leaks. Hydraulic systems can blow gaskets or hoses resulting in large quantities of hydraulic fluid spilled to the ground.</p>	<p>area such that oil, fuel and other fluid leaks do not pollute soil or ground water sources.</p>			
<p><b>B.6. Emergency Response to spillages</b></p>		<p><b>Responsibility</b></p>	<p><b>Frequency</b></p>	<p><b>Notes</b></p>
<p>This section aims to provide measures to manage spillages from equipment used on site and measures for other construction materials handled on site.</p>	<p><b>B.6.1 Emergency Response to spillages</b></p> <p>The contractor shall take into account the following prevention measures to be applied during spillages.</p> <ul style="list-style-type: none"> <li>(a) Immediately repair all leaks of hydrocarbons, oil, etc.</li> <li>(b) Take reasonable measure to prevent the spills or leaks.</li> <li>(c) Dispose contaminated materials to a location designated thereto.</li> <li>(d) The contractor shall have its own spill response plan in the event of any spills (oil, fuel, hazardous materials) from his machinery or equipment used on site.</li> </ul>	<p>Contractor</p>	<p>During spillages</p>	<p>The ECO/EO and contractor must ensure that the Emergency response procedure is well understood by all workers on site and that a summary is available for site visitors.</p>

*Please note that Section B must be updated with any further conditions as stipulated by the Air Emissions License or Environmental Authorisation.*

### 3.3 Section C: Operation Phase Activities

C.1. Air Pollution		Responsibility	Frequency	Notes
	<p><b>C.1.1 Air Pollution</b></p> <p>(a) The air filters at the existing Bag House facility needs to be checked and maintained regularly to ensure that limited dust emissions occur.</p> <p>(b) The hot gas burner needs to be serviced according to manufacturer guidelines, to ensure efficient engine working and fuel combustion.</p> <p>(c) Storage silos and raw material storage facilities needs to be managed and maintained to reduce the possibility of air pollution through fugitive dust.</p> <p>(d) The conveyor belts should be covered all round, or at least from the prevailing wind direction.</p> <p>(e) The existing mitigation measures that occur on site and that where taken into account during the Air Quality Impact Assessment dispersion modeling, must be maintained as recommended.</p> <p>(f) An Air Emissions Monitoring Plan must be developed and implemented to ensure that the plant remains within applicable guidelines and standards.</p>	PM/EO	The monitoring of the air pollution preventative measures need to occur on a frequency determined by manufacture guidelines / the AEL/ or the ECO	

C.2. General Housekeeping		Responsibility	Frequency	Notes
	<p><b>C.2.1 Housekeeping</b></p> <p>(a) Housekeeping must continue as per the existing site's policy and practices to ensure limited fugitive dust fallout.</p> <p>(b) The Raw material and finished product storage silos should be kept in an orderly manner and spills should be cleaned up immediately to prevent the material from been blown around the site.</p>	Site Manager	Weekly	

*Please note that Section C must be updated with any further conditions as stipulated by the Air Emissions License or Environmental Authorisation.*

**ANNEXURE 1**

---

**DECLARATION OF UNDERSTANDING BY THE DEVELOPER**

I, \_\_\_\_\_

Representing \_\_\_\_\_

Declare that I have read and understood the contents of the Environmental Management Plan for:

Contract \_\_\_\_\_

I also declare that I understand my responsibilities in terms of enforcing and implementing the Environmental Specifications for the aforementioned Contract.

Signed: \_\_\_\_\_

Place: \_\_\_\_\_

Date: \_\_\_\_\_

Witness 1: \_\_\_\_\_

Witness2: \_\_\_\_\_

## ANNEXURE 2

---

### DECLARATION OF UNDERSTANDING BY THE ENGINEER

I, \_\_\_\_\_

Representing \_\_\_\_\_

Declare that I have read and understood the contents of the Environmental Management Plan for:

Contract \_\_\_\_\_

I also declare that I understand my responsibilities in terms of enforcing and implementing the Environmental Specifications for the aforementioned Contract.

Signed: \_\_\_\_\_

Place: \_\_\_\_\_

Date: \_\_\_\_\_

Witness 1: \_\_\_\_\_

Witness2: \_\_\_\_\_

**ANNEXURE 3**

---

**DECLARATION OF UNDERSTANDING BY THE CONTRACTOR**

I, \_\_\_\_\_

Representing \_\_\_\_\_

Declare that I have read and understood the contents of the Environmental Management Plan for:

Contract \_\_\_\_\_

I also declare that I understand my responsibilities in terms of enforcing and implementing the Environmental Specifications for the aforementioned Contract.

Signed: \_\_\_\_\_

Place: \_\_\_\_\_

Date: \_\_\_\_\_

Witness 1: \_\_\_\_\_

Witness2: \_\_\_\_\_

## METHOD STATEMENT: Solid Waste Management

CONTRACT:..... DATE:.....

**WHAT WORK IS TO BE UNDERTAKEN?** [Give a brief description of the works to be undertaken on site that will generate waste (hazardous and non-hazardous wastes)]: \* Note: please attach extra pages if more space is required.

\*Insert additional pages as required

**WHERE ARE THE WORKS TO BE UNDERTAKEN?** (Where possible, provide an annotated plan and a full description of the extent of the works): \* Note: please attach extra pages if more space is required

\*Insert additional pages as required

## METHOD STATEMENT: Solid Waste Management (contd.)

**START AND END DATE OF THE WORKS FOR WHICH THE METHOD STATEMENT IS REQUIRED:**

**Start Date:**.....

**End Date:**.....

**HOW IS WASTE TO BE MANAGED ON SITE?** (Provide as much detail as possible, including annotated sketches and plans where possible): \* Note: please attach extra pages if more space is required

**\*Insert additional pages as required**

**DECLARATIONS for Method Statement : Solid Waste Management  
(contd.)**

**1) ENGINEER**

The work described in this Method Statement, if carried out according to the methodology described, is satisfactory to prevent or control environmental harm and is thus approved:

\_\_\_\_\_  
(Signed)

\_\_\_\_\_  
(Print name)

Dated:\_\_\_\_\_

**2) ECO**

The work described in this Method Statement, if carried out according to the methodology described, is satisfactory to prevent or control environmental harm and is thus approved:

\_\_\_\_\_  
(Signed)

\_\_\_\_\_  
(Print name)

Dated:\_\_\_\_\_

**2) CONTRACTOR**

I understand the contents of this Method Statement and the scope of the works required of me. I further understand that this Method Statement may be amended on application to and with approval by the Engineer, and that the SHE Coordinator, Construction Manager and ECO will audit my compliance with the contents of this Method Statement

\_\_\_\_\_  
(Signed)

\_\_\_\_\_  
(Print name)

Dated:\_\_\_\_\_

**ANNEXURE 4 B**

**METHOD STATEMENT: Crew Camps and Construction Lay Down Areas**

**CONTRACT:**..... **DATE:**.....

**WHAT CREW CAMPS AND CONSTRUCTION LAY DOWN AREAS ARE REQUIRED ON SITE DURING CONSTRUCTION?** (Give a brief description of these): \* Note: please attach extra pages if more space is required

\*Insert additional pages as required

**WHERE ARE THE CREW CAMPS AND CONSTRUCTION LAY DOWN AREAS TO BE LOCATED?** (Where possible, provide an annotated plan and a full description of the extent of the works): \* Note: please attach extra pages if more space is required

\*Insert additional pages as required

**METHOD STATEMENT:**

**Crew Camps and Construction Lay Down Areas (contd.)**

**START AND END DATE OF THE WORKS FOR WHICH THE METHOD STATEMENT IS REQUIRED:**

**Start Date:**.....

**End Date:**.....

**HOW ARE CREW CAMPS AND CONSTRUCTION LAY DOWN AREAS TO BE MANAGED?**

(Provide as much detail as possible, including annotated sketches and plans where possible): \*

Note: please attach extra pages if more space is required

**\*Insert additional pages as required**

**DECLARATIONS for Method Statement**

**Crew Camps and Construction Lay Down Areas (contd.)**

**1) ENGINEER**

The work described in this Method Statement, if carried out according to the methodology described, is satisfactory to prevent or control environmental harm and is thus approved:

\_\_\_\_\_  
(Signed)

\_\_\_\_\_  
(Print name)

Dated:\_\_\_\_\_

**2) ECO**

The work described in this Method Statement, if carried out according to the methodology described, is satisfactory to prevent or control environmental harm and is thus approved:

\_\_\_\_\_  
(Signed)

\_\_\_\_\_  
(Print name)

Dated:\_\_\_\_\_

**2) CONTRACTOR**

I understand the contents of this Method Statement and the scope of the works required of me. I further understand that this Method Statement may be amended on application to and with approval by the Engineer, and that the SHE Coordinator, Construction Manager and ECO will audit my compliance with the contents of this Method Statement

\_\_\_\_\_  
(Signed)

\_\_\_\_\_  
(Print name)

Dated: \_\_\_\_\_

## METHOD STATEMENT: Cement and Concrete Batching

CONTRACT:..... DATE:.....

**WHAT WORK IS TO BE UNDERTAKEN?** (Give a brief description of the works): \* Note: please attach extra pages if more space is required

\*Insert additional pages as required

**WHERE ARE THE WORKS TO BE UNDERTAKEN?** (Where possible, provide an annotated plan and a full description of the extent of the works): \* Note: please attach extra pages if more space is required

\*Insert additional pages as required

## METHOD STATEMENT:

### Cement and Concrete Batching (contd.)

**START AND END DATE OF THE WORKS FOR WHICH THE METHOD STATEMENT IS REQUIRED:**

**Start Date:**.....

**End Date:**.....

**HOW ARE THE WORKS TO BE UNDERTAKEN?** (Provide as much detail as possible, including annotated sketches and plans where possible): \* Note: please attach extra pages if more space is required

**\*Insert additional pages as required**

**DECLARATIONS for Method Statement**

**Cement and Concrete Batching (contd.)**

**1) ENGINEER**

The work described in this Method Statement, if carried out according to the methodology described, is satisfactory to prevent or control environmental harm and is thus approved:

\_\_\_\_\_  
(Signed)

\_\_\_\_\_  
(Print name)

Dated:\_\_\_\_\_

**2) ECO**

The work described in this Method Statement, if carried out according to the methodology described, is satisfactory to prevent or control environmental harm and is thus approved:

\_\_\_\_\_  
(Signed)

\_\_\_\_\_  
(Print name)

Dated:\_\_\_\_\_

**2) CONTRACTOR**

I understand the contents of this Method Statement and the scope of the works required of me. I further understand that this Method Statement may be amended on application to and with approval by the Engineer, and that the SHE Coordinator, Construction Manager and ECO will audit my compliance with the contents of this Method Statement

\_\_\_\_\_  
(Signed)

\_\_\_\_\_  
(Print name)

Dated:\_\_\_\_\_

## METHOD STATEMENT: Dust Control

CONTRACT:..... DATE:.....

**WHAT WORK IS TO BE UNDERTAKEN ON SITE THAT COULD GENERATE DUST?** (Give a brief description of the works): \* Note: please attach extra pages if more space is required

\*Insert additional pages as required

**WHERE ARE THE WORKS TO BE UNDERTAKEN** (where possible, provide an annotated plan and a full description of the extent of the works): \* Note: please attach extra pages if more space is required

\*Insert additional pages as required

## **METHOD STATEMENT: Dust Control (contd.)**

**START AND END DATE OF THE WORKS FOR WHICH THE METHOD STATEMENT IS REQUIRED:**

**Start Date:**.....

**End Date:**.....

**HOW ARE THE WORKS TO BE UNDERTAKEN SO AS TO MINIMISE AND CONTROL DUST GENERATION ON SITE?** (Provide as much detail as possible, including annotated sketches and plans where possible): \* Note: please attach extra pages if more space is required

**\*Insert additional pages as required**

**DECLARATIONS for Method Statement: Dust Control (contd.)**

**1) ENGINEER**

The work described in this Method Statement, if carried out according to the methodology described, is satisfactory to prevent or control environmental harm and is thus approved:

\_\_\_\_\_  
(Signed)

\_\_\_\_\_  
(Print name)

Dated:\_\_\_\_\_

**2) ECO**

The work described in this Method Statement, if carried out according to the methodology described, is satisfactory to prevent or control environmental harm and is thus approved:

\_\_\_\_\_  
(Signed)

\_\_\_\_\_  
(Print name)

Dated:\_\_\_\_\_

**2) CONTRACTOR**

I understand the contents of this Method Statement and the scope of the works required of me. I further understand that this Method Statement may be amended on application to and with approval by the Engineer, and that the SHE Coordinator, Construction Manager and ECO will audit my compliance with the contents of this Method Statement

\_\_\_\_\_  
(Signed)

\_\_\_\_\_  
(Print name)

Dated:\_\_\_\_\_

**METHOD STATEMENT:  
Hydrocarbon and Emergency Spill Procedure**

CONTRACT:..... DATE:.....

**WHAT HAZARDOUS SUBSTANCES (INCL. FUELS) ARE TO BE STORED ON SITE?** (Give a brief description of the works): \* Note: please attach extra pages if more space is required

\*Insert additional pages as required

**WHERE ARE THE THESE SUBSTANCES TO BE STORED ON SITE?** (Where possible, provide an annotated plan and a full description of the extent of the works): \* Note: please attach extra pages if more space is required

\*Insert additional pages as required

**METHOD STATEMENT:**

**Hydrocarbon and Emergency Spill Procedures (contd.)**

**START AND END DATE OF THE WORKS FOR WHICH THE METHOD STATEMENT IS REQUIRED:**

**Start Date:**.....

**End Date:**.....

**HOW ARE HAZARDOUS SUBSTANCES TO BE MANAGED TO AVOID SPILLAGES AND WHAT EMERGENCY PROCEDURES ARE TO BE IMPLEMENTED IN CASE OF A SPILLAGE?**

(Provide as much detail as possible, including annotated sketches and plans where possible): \*

Note: please attach extra pages if more space is required

**\*Insert additional pages as required**

**DECLARATIONS for Method Statement**

**Hydrocarbon and Emergency Spill Procedures (contd.)**

**1) ENGINEER**

The work described in this Method Statement, if carried out according to the methodology described, is satisfactory to prevent or control environmental harm and is thus approved:

\_\_\_\_\_  
(Signed)

\_\_\_\_\_  
(Print name)

Dated:\_\_\_\_\_

**2) ECO**

The work described in this Method Statement, if carried out according to the methodology described, is satisfactory to prevent or control environmental harm and is thus approved:

\_\_\_\_\_  
(Signed)

\_\_\_\_\_  
(Print name)

Dated:\_\_\_\_\_

**2) CONTRACTOR**

I understand the contents of this Method Statement and the scope of the works required of me. I further understand that this Method Statement may be amended on application to and with approval by the Engineer, and that the SHE Coordinator, Construction Manager and ECO will audit my compliance with the contents of this Method Statement

\_\_\_\_\_  
(Signed)

\_\_\_\_\_  
(Print name)

Dated:\_\_\_\_\_

## **METHOD STATEMENT: Fire Management**

**CONTRACT:**..... **DATE:**.....

**WHAT WORK IS TO BE UNDERTAKEN?** (Give a brief description of the works): \* Note: please attach extra pages if more space is required

**\*Insert additional pages as required**

**WHERE ARE THE WORKS TO BE UNDERTAKEN?** (Where possible, provide an annotated plan and a full description of the extent of the works): \* Note: please attach extra pages if more space is required

**\*Insert additional pages as required**

**METHOD STATEMENT:  
Fire Management (contd.)**

**START AND END DATE OF THE WORKS FOR WHICH THE METHOD STATEMENT IS  
REQUIRED:**

**Start Date:**.....

**End Date:**.....

**HOW ARE THE WORKS TO BE UNDERTAKEN?** (Provide as much detail as possible, including annotated sketches and plans where possible): \* Note: please attach extra pages if more space is required

**\*Insert additional pages as required**

**DECLARATIONS for Method Statement**

**Fire Management (contd.)**

**1) ENGINEER**

The work described in this Method Statement, if carried out according to the methodology described, is satisfactory to prevent or control environmental harm and is thus approved:

\_\_\_\_\_  
(Signed)

\_\_\_\_\_  
(Print name)

Dated:\_\_\_\_\_

**2) ECO**

The work described in this Method Statement, if carried out according to the methodology described, is satisfactory to prevent or control environmental harm and is thus approved:

\_\_\_\_\_  
(Signed)

\_\_\_\_\_  
(Print name)

Dated:\_\_\_\_\_

**2) CONTRACTOR**

I understand the contents of this Method Statement and the scope of the works required of me. I further understand that this Method Statement may be amended on application to and with approval by the Engineer, and that the SHE Coordinator, Construction Manager and ECO will audit my compliance with the contents of this Method Statement

\_\_\_\_\_  
(Signed)

\_\_\_\_\_  
(Print name)

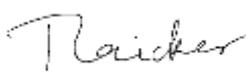
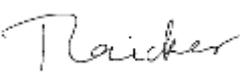
Dated:\_\_\_\_\_



# DOCUMENT CONTROL

FORM IP180\_B

**CLIENT** : PPC Ltd  
**PROJECT NAME** : PPC Jupiter Slag Milling **PROJECT No.** : J31369  
**TITLE OF DOCUMENT** : PPC EMP  
**ELECTRONIC LOCATION** : \\jhb-5\projects\3230 ENVIRONMENTAL\J31369 PPC Jupiter  
BAR\Reports\BAR\FBAR

	Approved By	Reviewed By	Prepared By
<b>ORIGINAL</b>	NAME <b>Tashriq Naicker</b>	NAME <b>Tashriq Naicker</b>	NAME <b>Alecia Barnard</b>
DATE <b>2013/06/14</b>	SIGNATURE 	SIGNATURE 	SIGNATURE 

	Prepared by	Prepared By	Prepared By
<b>ORIGINAL</b>	NAME	NAME	NAME
DATE	SIGNATURE	SIGNATURE	SIGNATURE

	Approved By	Reviewed By	Prepared By
<b>REVISION</b>	NAME	NAME	NAME
DATE	SIGNATURE	SIGNATURE	SIGNATURE

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