Gauteng Department of Agriculture and Rural Development (GDARD)

Basic Assessment Report in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment Regulations, 2010 (Version 1)

List of all organs of state and State Departments where the draft report has been submitted, their full contact details and contact person

Kindly note that:

1. This **Basic Assessment Report** is the standard report required by GDARD in terms of the EIA Regulations, 2010.

2. This application form is current as of 2 August 2010. It is the responsibility of the EAP to ascertain whether subsequent versions of the form have been published or produced by the competent authority.

3. **A draft Basic Assessment Report must be submitted to all State Departments administering a law relating to a matter likely to be affected by the activity to be undertaken. The draft reports must be submitted to the relevant State Departments and on the same day, two CD's of draft reports must also be submitted to the Competent Authority (GDARD) with a signed proof of such submission of draft report to the relevant State Departments.**

4. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.

5. Selected boxes must be indicated by a cross and, when the form is completed electronically, must also be highlighted.

6. An incomplete report shall be rejected.

7. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.

8. Five (5) copies (3 hard copies and 2 CDs-PDF) of the final report and attachments must be handed in at offices of the relevant competent authority, as detailed below.

9. No faxed or e-mailed reports will be accepted. Only hand delivered or posted applications will be accepted.

10. Unless protected by law, and clearly indicated as such, all information filled in on this application will become public information on receipt by the competent authority. The applicant/EAP must provide any interested and affected party with the information contained in this application on request, during any stage of the application process.

DEPARTMENTAL DETAILS

Gauteng Department of Agriculture and Rural Development
Attention: Administrative Unit of the Sustainable Utilisation of the Environment (SUE) Branch
P.O. Box 8769
Johannesburg
2000

Administrative Unit of the Sustainable Utilisation of the Environment (SUE) Branch
18th floor Glen Cairn Building
73 Market Street, Johannesburg

Admin Unit telephone number: (011) 355 1345
Department central telephone number: (011) 355 1900

(For official use only)

File Reference Number:						
Application Number:						
Date Received:						

* Submission to State Departments (Number 3 above)

Has a draft report for this application been submitted to all State Departments administering a law relating to a matter likely to be affected as a result of this activity? YES

Is a list of State Departments referred to above been attached to this report? YES

if no, state reasons for not attaching the list.

SECTION A: ACTIVITY INFORMATION

1. ACTIVITY DESCRIPTION

Project title (must be the same name as per application form):

PPC JUPITER

(The milling of slag by the application of heat)

Select the appropriate box

The application is for an upgrade of an existing development	X	The application is for a new development		Other, specify	

Does the activity also require any authorisation other than NEMA EIA authorisation?

YES	
X	

If yes, describe the legislation and the Competent Authority administering such legislation

Authorisation is also required from the City of Johannesburg in terms of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004).

If yes, have you applied for the authorisation(s)?	**NO**
If yes, have you received approval(s)? (attach in appropriate appendix)	**NO**

2. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations:

Title of legislation, policy or guideline:	Administering authority:	Promulgation Date:
National Environmental Management Act No. 107 of 1998 as amended.	National & Provincial	27 November 1998

Environmental Impact Assessment Regulations, 2010, Government Notice No. 543,546	Department of Environmental Affairs	2010
Environmental Impact Assessment Regulations, 2010, Government Notice No. 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. 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.	Department of Environmental Affairs	2010
National Water Act, 1998 (Act No. 36 of 1998)	Department of Water Affairs	1998
National Heritage Resources Act, 1999 (Act No. 25 of 1999)	South African Heritage Resource Agency	1999
National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)	Department of Environmental Affairs	2004
National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)	Department of Environmental Affairs	2008
National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)	District Municipalities	2004
Conservation of Agriculture Resources Act, 1983 (Act No. 43 of 1983);	Department of Environmental Affairs	1983
Guideline on Public Participation	Department of Environmental Affairs and Development Planning	July 2006
Guideline on Public Participation	Department of Environmental Affairs	May 2006
Guideline on Alternatives	Department of Environmental Affairs	May 2006
Guideline on Alternatives	Department of Environmental Affairs and Development Planning	July 2006
National Water Resource Strategy: First Edition.	Department of Water Affairs	2004
Occupational Health and Safety Act	Department of Labour	June 1993
The Constitution of South Africa	The Republic of South Africa	

3. ALTERNATIVES

Describe the proposal and alternatives that are considered in this application. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished. The determination of whether the site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment.

The no-go option must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. **Do not** include the no go option into the alternative table below.

Note: After receipt of this report the competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.
Provide a description of the alternatives considered

No.	**Alternative type**, either alternative: site on property, properties, activity, design, technology, operational or other(provide details of "other")	**Description**
	Proposal (fuel to be used in the slag milling process will be LPG Gas)	PPC wishes to process slag by the application of heat at their Jupiter site in Germiston, City of Johannesburg, Gauteng Province. The preferred fuel to be used in the slag milling process will be Low Pressure Gas. 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 (which will be portable). 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 (commercial decision will be made at time of construction). It is estimated that 12 - 14m^3 of gas will be used per day. Refer to Appendix C for the route of the pipeline.
1	Diesel or LO10 (or an appropriate alternative oil) to be used as fuel in the slag milling process	It is possible to use Diesel or LO10 as a suitable fuel alternative in the slag milling process. There will be a tank farm that will house the fuel to be used in the drying process. It is envisaged that approximately 46m^3 of diesel or LO10 will be stored within this tank farm. The tank farm will be located within the existing site as illustrated in Appendix C.

In the event that no alternative(s) has/have been provided, a motivation must be included in the table below.

NOTE: The numbering in the above table must be consistently applied throughout the application report and process

4. PHYSICAL SIZE OF THE ACTIVITY

Indicate the total physical size (footprint) of the proposal as well as alternatives. Footprints are to include all new infrastructure (roads, services etc), impermeable surfaces and landscaped areas:

	Size of the activity:
Proposed activity	
Alternatives:	
Alternative 1 (diesel / LO10 tank farm)	**66 m^2**
Alternative 2 (if any)	
	Ha/ m^2

or, for linear activities:

	Length of the activity:
Proposed activity (if gas is piped)	**750 m**
Alternatives:	
Alternative 1 (if any)	
Alternative 2 (if any)	
	k/km

Indicate the size of the site(s) or servitudes (within which the above footprints will occur):

	Size of the site/servitude:
Proposed activity (if gas is piped)	**750 m^2**
Alternatives:	
Alternative 1 (diesel / LO10 tank farm)	66 m^2
Alternative 2 (if any)	
	Ha/m^2

5. SITE ACCESS

Proposal

Does ready access to the site exist, or is access directly from an existing road?

YES	
X	

It is an existing site.
The site will be accessed from Lower Germiston Road, via Cleveland Road.

If NO, what is the distance over which a new access road will be built: m

Describe the type of access road planned:

Include the position of the access road on the site plan.

Alternative 1

Does ready access to the site exist, or is access directly from an existing road?

YES	
X	

It is an existing site.
The site will be accessed from Lower Germiston Road, via Cleveland Road.

If NO, what is the distance over which a new access road will be built: m

Describe the type of access road planned:

Include the position of the access road on the site plan.

Alternative 2

Does ready access to the site exist, or is access directly from an existing road? YES / NO

If NO, what is the distance over which a new access road will be built: m

Describe the type of access road planned:

Include the position of the access road on the site plan.

PLEASE NOTE: Points 6 to 8 of Section A must be duplicated where relevant for alternatives

Section A 6-8 has been duplicated [ ] Number of times

(only complete when applicable)

6. SITE OR ROUTE PLAN

A detailed site or route (for linear activities) plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document. The site or route plans must indicate the following:

- the scale of the plan, which must be at least a scale of 1:2000 (scale can not be larger than 1:2000 i.e. scale can not be 1:2500 but could where applicable be 1:1500)
- the property boundaries and numbers of all the properties within 50m of the site;
- the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- the exact position of each element of the application as well as any other structures on the site;
- the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, septic tanks, storm water infrastructure and telecommunication infrastructure;
- walls and fencing including details of the height and construction material;
- servitudes indicating the purpose of the servitude;
- sensitive environmental elements on and within 100m of the site or sites including (but not limited thereto):
  - Rivers and wetlands;
  - the 1:100 and 1:50 year flood line;
  - ridges;
  - cultural and historical features;

- areas with indigenous vegetation (even if it is degraded or infested with alien species);

- for gentle slopes the 1m contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and
- the positions from where photographs of the site were taken.
- Where a watercourse is located on the site at least one cross section of the water course must be included (to allow the 32m position from the bank to be clearly indicated)

7. SITE PHOTOGRAPHS

Colour photographs from the center of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under the appropriate Appendix**.** It should be supplemented with additional photographs of relevant features on the site, where applicable.

8. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of 1:200 for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity. To be attached in the appropriate Appendix.

SECTION B: DESCRIPTION OF RECEIVING ENVIRONMENT

Note: Complete Section B for the proposal and alternative(s) (if necessary)

Further:

Instructions for completion of Section B for linear activities

1) For linear activities (pipelines etc) it may be necessary to complete Section B for each section of the site that has a significantly different environment.
2) Indicate on a plan(s) the different environments identified
3) Complete Section B for each of the above areas identified
4) Attach to this form in a chronological order
5) Each copy of Section B must clearly indicate the corresponding sections of the route at the top of the next page.

Section B has been duplicated for sections of the route | **0** | times

Instructions for completion of Section B for location/route alternatives

1) For each location/route alternative identified the entire Section B needs to be completed
2) Each alterative location/route needs to be clearly indicated at the top of the next page
3) Attach the above documents in a chronological order

Section B has been duplicated for location/route alternatives | **0** | times
(complete only when appropriate)

Instructions for completion of Section B when both location/route alternatives and linear activities are applicable for the application

Section B is to be completed and attachments order in the following way

- All significantly different environments identified for Alternative 1 is to be completed and attached in a chronological order; then
- All significantly different environments identified for Alternative 2 is to be completed and attached chronological order, etc.

Section B - Section of Route ☐ (complete only when appropriate for above)

Section B – Location/route Alternative No. ☐ (complete only when appropriate for above)

1. PROPERTY DESCRIPTION

Property description: Portion 344 of The Farm Doorfontein No. 92 IR, Heriotdale, Gauteng Province.

(Farm name, portion etc.)

2. ACTIVITY POSITION

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in decimal degrees. The degrees should have at least six decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

Alternative:	**Latitude (S):**	**Longitude (E):**
	-26.223497°	28.121175°

In the case of linear activities:

Alternative:	**Latitude (S):**	**Longitude (E):**
• Starting point of the activity	°	°
• Middle point of the activity	°	°
• End point of the activity	°	°

For route alternatives that are longer than 500m, please provide co-ordinates taken every 250 meters along the route and attached in the appropriate Appendix

Addendum of route alternatives attached ☐

3. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5

4. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site.

Ridgeline	Plateau	Side slope of hill/ridge	Valley	**Plain**	Undulating plain/low hills	River front

5. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

a) Is the site located on any of the following?

Shallow water table (less than 1.5m deep)	**NO**
Dolomite, sinkhole or doline areas	**YES** (within the greater surrounding area)
Seasonally wet soils (often close to water bodies)	**NO**
Unstable rocky slopes or steep slopes with loose soil	**NO**
Dispersive soils (soils that dissolve in water)	**NO**
Soils with high clay content (clay fraction more than 40%)	**NO**
Any other unstable soil or geological feature	**NO**
An area sensitive to erosion	**NO**

(Information in respect of the above will often be available at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used).

b) are any caves located on the site(s)		NO

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S):	Longitude (E):
°	°

c) are any caves located within a 300m radius of the site(s)		NO

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S):	Longitude (E):
°	°

d) are any sinkholes located within a 300m radius of the site(s) **There where sinkholes within the greater site and along lower Germiston road but not within the proposed study area for the processing of slag**.	YES	

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S):	Longitude (E):
°	°

If any of the answers to the above are "YES" or "unsure", specialist input may be requested by the Department

6. AGRICULTURE

Does the site have high potential agriculture as contemplated in the Gauteng Agricultural Potential Atlas (GAPA 3)?		NO

The site is an existing developed area

Please note: The Department may request specialist input/studies in respect of the above.

7. GROUNDCOVER

To be noted that the location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Indicate the types of groundcover present on the site and include the estimated percentage found on site

Natural veld - good condition % =	Natural veld with scattered aliens % =	Natural veld with heavy alien infestation % =	Veld dominated by alien species % =	Landscaped (vegetation) % =
Sport field % =	Cultivated land % =	**Paved surface (hard landscaping) % =70**	**Building or other structure % =30**	Bare soil % =

Please note: The Department may request specialist input/studies depending on the nature of the groundcover and potential impact(s) of the proposed activity/ies.

Are there any rare or endangered flora or fauna species (including red list species) present on the site		NO

If YES, specify and explain:

Are there any rare or endangered flora or fauna species (including red list species) present within a 200m (if within urban area as defined in the Regulations) or within 600m (if outside the urban area as defined in the Regulations) radius of the site.		NO

If YES, specify and explain:

Are there any special or sensitive habitats or other natural features present on the site?		NO

If YES, specify and explain:

Was a specialist consulted to assist with completing this section		NO

If yes complete specialist details

Name of the specialist:	
Qualification(s) of the specialist:	
Postal address:	
Postal code:	

Telephone:		Cell:	
E-mail:		Fax:	
Are any further specialist studies recommended by the specialist?		YES	NO
If YES, specify:			
If YES, is such a report(s) attached?		YES	NO
If YES list the specialist reports attached below			

Signature of specialist: _____ Date:

Please note; If more than one specialist was consulted to assist with the filling in of this section then this table must be appropriately duplicated

8. LAND USE CHARACTER OF SURROUNDING AREA

Using the associated number of the relevant current land use or prominent feature from the table below, fill in the position of these land-uses in the vacant blocks below which represent a 500m radius around the site

1. Vacant land	2. River, stream, wetland	3. Nature conservation area	4. Public open space	5. Koppie or ridge
6. Dam or reservoir	7. Agriculture	**8. Low density residential**	9. Medium to high density residential	10. Informal residential
11. Old age home	12. Retail	13. Offices	14. Commercial & warehousing	**15. Light industrial**
16. Heavy industrial^{AN}	17. Hospitality facility	18. Church	19. Education facilities	20. Sport facilities
21. Golf course/polo fields	22. Airport^{N}	23. Train station or shunting yard^{N}	**24. Railway line^{N}**	**25. Major road (4 lanes or more)^{N} (N3 highway)**
26. Sewage treatment plant^{A}	27. Landfill or waste treatment site^{A}	28. Historical building	29. Graveyard	30. Archeological site
31. Open cast mine	32. Underground mine	33.Spoil heap or slimes dam^{A}	34. Small Holdings	
Other land uses (describe):				

NOTE: Each block represents an area of 250m X250m

NORTH

15 / 16	**15 / 16**	**15 / 16**	**15 / 16**	**25**
1	**15 / 16**	**15 / 16**	**25**	**1**
1	**1**		**25**	**1**
1	**8**	**15 / 16**	**25**	**1**
8	**8**	**15 / 16**	**25**	**1**

WEST EAST

SOUTH

= Site

Note: More than one (1) Land-use may be indicated in a block

Please note: The Department may request specialist input/studies depending on the nature of the land use character of the area and potential impact(s) of the proposed activity/ies. Specialist reports that look at health & air quality and noise impacts may be required for any feature above and in particular those features marked with an "A" and with an "N" respectively.

Have specialist reports been attached	**YES**	

If yes indicate the type of reports below

An Air Quality Study conducted by EScience Associates (PTY) Ltd has been compiled and attached to this Report.

9. SOCIO-ECONOMIC CONTEXT

Describe the existing social and economic characteristics of the area and the community condition as baseline information to assess the potential social, economic and community impacts.

The site is located within Ward 57 of the City of Johannesburg Metropolitan Municipality (CJMM). The CJMM has shown a population growth of 3.18 % per year from 2001, which is approximately twice that of the country at 1.44 %. Approximately 35 % of individuals aged 20 or more have attended higher education institutions, while the youth unemployment rate had decreased to 31.3 % in 2011.

10. CULTURAL/HISTORICAL FEATURES

Please be advised that if section 38 of the National Heritage Resources Act 25 of 1999 is applicable to your proposal or alterantives, then you are requested to furnish this Department with written comment from the South African Heritage Resource Agency (SAHRA) – Attach comment in appropriate annexure

38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as-

(a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;

(b) the construction of a bridge or similar structure exceeding 50m in length;

(c) any development or other activity which will change the character of a site-

(i) exceeding 5 000 m2 in extent; or

(ii) involving three or more existing erven or subdivisions thereof; or

(iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or

(iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;

(d) the re-zoning of a site exceeding 10 000 m2 in extent; or

(e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

Are there any signs of culturally (aesthetic, social, spiritual, environmental) or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including archaeological or palaeontological sites, on or close (within 20m) to the site?		**NO**

If YES, explain:

The site is an existing fully developed site. The proposed slag milling will not alter the character of the site.

If uncertain, the Department may request that specialist input be provided to establish whether there is such a feature(s) present on or close to the site.

Briefly explain the findings of the specialist if one was already appointed:

Will any building or structure older than 60 years be affected in any way?		**NO**
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?		**NO**

If yes, please attached the comments from SAHRA in the appropriate Appendix

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT

The Environmental Assessment Practitioner must follow any relevant guidelines adopted by the competent authority in respect of public participation and must at least –

1(a) Fix a site notice at a conspicuous place, on the boundary of a property where it is intended to undertake the activity which states that an application will be submitted to the competent authority in terms of these regulations and which provides information on the proposed nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations on the application may be made;

1(b) inform landowners and occupiers of adjacent land of the applicant's intention to submit an application to the competent authority;

1(c) inform landowners and occupiers of land within 100 metres of the boundary of the property where it is proposed to undertake the activity and whom may be directly affected by the proposed activity of the applicant's intention to submit an application to the competent authority;

1(d) inform the ward councillor and any organisation that represents the community in the area of the applicant's intention to submit an application to the competent authority;

1(e) inform the municipality which has jurisdiction over the area in which the proposed activity will be undertaken of the applicant's intention to submit an application to the competent authority; and

1(f) inform any organ of state that may have jurisdiction over any aspect of the activity of the applicant's intention to submit an application to the competent authority; and

1(g) place an advertisement in one local newspaper and any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of these regulations.

2. LOCAL AUTHORITY PARTICIPATION

Local authorities are key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input. The planning and the environmental sections of the local authority must be informed of the application at least thirty (30) calendar days before the submission of the application to the competent authority (GDARD).

Has any comment been received from the local authority?		**NO**

If "YES", briefly describe the comment below (also attach any correspondence to and from the local authority to this application):

If "NO" briefly explain why no comments have been received

Public review of the Draft Basic Assessment Report (BAR) took place from 23 April 2013 to 03 June 2013. A copy of the draft BAR was submitted to the City of Johannesburg Air Quality and Environmental Management Departments on 24 April 2013. However, no comments have been received to date.

3. CONSULTATION WITH OTHER STAKEHOLDERS

Any stakeholder that has a direct interest in the activity, site or property, such as servitude holders and service providers, should be informed of the application at least thirty (30) calendar days before the submission of the application and be provided with the opportunity to comment.

Has any comment been received from stakeholders?	**YES**	

If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

Public review of the Draft Basic Assessment Report took place from 23 April 2013 to 03 June 2013 during which time the identified stakeholders were provided an opportunity to comment on the Draft BAR.

The only written comment received during the Public Review period was from Mr Sibeko who expressed his concern on behalf of Rotek and Roshcon SOC Ltd was in terms of them being exposed to high levels of cement dust allegedly coming from the PPC operations and that this dust affects their production of bearings in the workshop since it is sensitive to the exposure of dust. He also indicated that all employee and company cars gets covered with the cement dust and that the proposed development should be investigated in depth in order to find effective solutions to minimising the cement dust released during the PPC operations. Mr Tashriq Naicker responded indicating that the amount of dust experienced within and surrounding the site falls within the permissible National limits and that the current EMP for the site does include effective dust suppression measures that will be revised should more effective measures become viable in future.

A Public Meeting was held on 08 May 2013 at the PPC Jupiter offices in Germiston, during which comments were raised by the Interested and Affected Parties (I&APs) present at the meeting,

During the Public meeting, Mr, Forbes requested information with regards to what the National standards are for the allowed emissions into the ambient air for the proposed milling of slag to which Mr Tashriq Naicker responded indicating that the National standards are illustrated within Section 3.3 of the Air Quality Study conducted for the plant and that it should be noted that the air emissions for the PPC Jupiter plant are within the permissible levels allowed.

Mr Sibeko requested clarity around whether the process for the proposed project will be minimising the dust levels currently experienced to which Mr Tashriq Naicker responded indicating that the PPC Jupiter plant is an existing operation and that certain emissions are therefore allowed for the area in which the plant exists. Since the proposed slag milling will be utilizing the existing infrastructure at the PPC Jupiter site, the control measures in terms of the maintenance of the bag house filters will be taking place as part of the EMP that currently exists for the site as a whole. From the Air Quality study conducted it was concluded that the dust emissions currently experienced within the site fall within the National standards acceptable for industrial areas, and that the milling of slag will not cause a significant increase in the current dust emissions levels.

Mr Sibeko inquired whether air quality monitoring is currently being undertaken at the PPC Jupiter Plan, to which Mr Tashriq Naicker responded clarifying that air quality monitoring is indeed undertaken at the plant on a regular basis and that the data results are then submitted to the City of Johannesburg Air Quality Department for their perusal.

Refer to Appendix E for a detailed Comment and Response Report.

If “NO” briefly explain why no comments have been received

4. GENERAL PUBLIC PARTICIPATION REQUIREMENTS

The Environmental Assessment Practitioner must ensure that the public participation is adequate and must determine whether a public meeting or any other additional measure is appropriate or not based on the particular nature of each case. Special attention should be given to the involvement of local community structures such as Ward Committees and ratepayers associations. Please note that public concerns that emerge at a later stage that should have been addressed may cause the competent authority to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was inadequate.

The practitioner must record all comments and respond to each comment of the public / interested and affected party before the application is submitted. The comments and responses must be captured in a Comments and Responses Report as prescribed in the regulations and be attached to this application.

5. APPENDICES FOR PUBLIC PARTICIPATION

All public participation information is to be attached in the appropriate Appendix. The information in this Appendix is to be ordered as detailed below

Appendix 1 – Proof of site notice
Appendix 2 – Written notices issued to those persons detailed in 1(b) to 1(f) above
Appendix 3 – Proof of newspaper advertisements
Appendix 4 –Communications to and from persons detailed in Point 2 and 3 above
Appendix 5 – Minutes of any public and/or stakeholder meetings
Appendix 6 - Comments and Responses Report
Appendix 7 –Comments from I&APs on Basic Assessment (BA) Report
Appendix 8 –Comments from I&APs on amendments to the BA Report
Appendix 9 – Copy of the register of I&APs
Appendix 10 – Comments from I&APs on the application
Appendix 11 - Other

SECTION D: RESOURCE USE AND PROCESS DETAILS

Note: Section D is to be completed for the proposal and alternative(s) (if necessary)

Instructions for completion of Section D for alternatives

1) For each alternative under investigation, where such alternatives will have different resource and process details (e.g. technology alternative), the entire Section D needs to be completed
4) Each alterative needs to be clearly indicated in the box below
5) Attach the above documents in a chronological order

Section D has been duplicated for alternatives (complete only when appropriate) **"insert No. of duplicates"** times

Section D Alternative No. "insert alternative number" (complete only when appropriate for above)

1. WASTE, EFFLUENT, AND EMISSION MANAGEMENT

Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?	**YES**	
If yes, what estimated quantity will be produced per month?	minimal	

How will the construction solid waste be disposed of (describe)?

There will be minimal construction waste associated with the development. All construction related waste will be disposed of at a registered landfill site via a dump truck.

Where will the construction solid waste be disposed of (describe)?

All construction related waste will be disposed of at a registered landfill site.

Will the activity produce solid waste during its operational phase?		**NO**
If yes, what estimated quantity will be produced per month?	`m^3	

How will the solid waste be disposed of (describe)?

Has the municipality or relevant service provider confirmed that sufficient air space exists for treating/disposing of the solid waste to be generated by this activity?	YES	NO

Where will the solid waste be disposed if it does not feed into a municipal waste stream (describe)?

Note: If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation?		**NO**
If yes, inform the competent authority and request a change to an application for scoping and EIA.		
Is the activity that is being applied for a solid waste handling or treatment facility?		**NO**

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Describe the measures, if any, that will be taken to ensure the optimal reuse or recycling of materials:

All materials that can be recycled will be recycled according to the plant's waste management policy.

Liquid effluent (other than domestic sewage)

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?		**NO**
If yes, what estimated quantity will be produced per month?	m^3	
If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the liquid effluent to be generated by this activity(ies)?	YES	NO
Will the activity produce any effluent that will be treated and/or disposed of on site?		**NO**
If yes, what estimated quantity will be produced per month?	m^3	

If yes describe the nature of the effluent and how it will be disposed.

Note that if effluent is to be treated or disposed on site the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA

Will the activity produce effluent that will be treated and/or disposed of at another facility?		**NO**

If yes, provide the particulars of the facility:

Facility name:

Contact person:			
Postal address:			
Postal code:			
Telephone:		Cell:	
E-mail:		Fax:	

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

The activity will not use water.

Liquid effluent (domestic sewage)

Will the activity produce domestic effluent that will be disposed of in a municipal sewage system?		**NO**
If yes, what estimated quantity will be produced per month?		m^3
If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the domestic effluent to be generated by this activity(ies)?	YES	NO
Will the activity produce any effluent that will be treated and/or disposed of on site?		**NO**

If yes describe how it will be treated and disposed off.

Emissions into the atmosphere

Will the activity release emissions into the atmosphere?	**YES**	
If yes, is it controlled by any legislation of any sphere of government?	**YES**	

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.
If no, describe the emissions in terms of type and concentration:

The type of emissions that will occur from the proposed slag milling is related to dust generation (due to the grinding process and conveyor belt transportation) and gaseous emissions (from the combustion of the fuel).

The key findings from the Air Quality Impact Assessment (AQIA) is discussed below (refer to Appendix G for further details):

The AQIA assessed the potential impacts of milling slag on site as well as future operations for the Jupiter plant. The AQIA considered the cumulative impacts of the site's operations as well as the contribution from surrounding areas. The dispersion modeling utilised an area of 66km X 55km to adequately account for the surrounding contributors.

Sulphur Dioxide (SO_2) contributions from ambient sources were found to be significant, however the hourly exceedances were not within the vicinity of the site, and the annual average is within regulated standards. The cumulative impact of SO_2 is well within ambient standards. There are predicted exceedances of the hourly ambient limit for Nitrogen Oxides (NOx), however the frequency of exceedance is well below the permissible number per an annum. It should be noted that conservative estimations where used in this regard.

The concentrations of PM10 resulting from the slag milling are within the national ambient air quality standards outside the plant boundary. Cumulative concentrations are expected to exceed the national ambient air quality standards; however they are within the occupational exposure standards which apply to industrial areas. The concentrations of PM2.5 from the slag milling process are within the national ambient air quality standards.

Therefore considering all the data provided and the results obtained from the study, it is concluded that the proposed operations proceed with the existing controls in place.

2. WATER USE

Indicate the source(s) of water that will be used for the activity

municipal	Directly from water board	groundwater	river, stream, dam or lake	other	**the activity will not use water**

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month: liters

If Yes, please attach proof of assurance of water supply, e.g. yield of borehole, in the appropriate Appendix

Does the activity require a water use permit from the Department of Water Affairs?	YES	NO

If yes, list the permits required

If yes, have you applied for the water use permit(s)?	YES	NO
If yes, have you received approval(s)? (attached in appropriate appendix)	YES	NO

3. POWER SUPPLY

Please indicate the source of power supply eg. Municipality / Eskom / Renewable energy source

Eskom

If power supply is not available, where will power be sourced from?

N/A

4. ENERGY EFFICIENCY

Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:

None

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

None

SECTION E: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2006, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summarise the issues raised by interested and affected parties.

Public review of the Draft Basic Assessment Report took place from 23 April 2013 to 03 June 2013 during which time the identified stakeholders were provided an opportunity to comment on the Draft BAR. All comments received during the public review period were captured in the Comment and Response Report which will be submitted to the competent authority along with the Final Basic Assessment Report.

Both verbal and written comments were received from the Interested and Affected Parties (I&APs) during the Draft BAR public review period with their comments requesting clarity in terms of whether emissions into the ambient air from the PPC Jupiter plant is and will be occurring within the allowed levels. The concerns raised also surrounded whether air quality monitoring is and will be undertaken on a regular basis to ensure that the PPC Jupiter plant emissions into the ambient air does not exceed the allowed levels for the plant as per the National Standards. Some members of the public also complained in that they are experiencing high levels of exposure to the cement dust emitted from the PPC operations and enquired whether the proposed development would be investigating in depth and effective solutions for minimising the cement dust emitted during PPC Jupiter operations.

Summary of response from the practitioner to the issues raised by the interested and affected parties
(A full response must be provided in the Comments and Response Report that must be attached to this report):

The Environmental Assessment Practitioner (EAP) on the project responded to the comments and queries received during the Public review period of the Draft BAR, indicating that the amount of dust experienced within and surrounding the PPC Jupiter plant is and will fall within the permissible National limits. The current EMP for the site does include effective dust suppression measures that will be revised should more effective measures become viable in future. The EAP also clarified that air quality monitoring is and will continue to be undertaken at the plant on a regular basis, where the results gets submitted to the City of Johannesburg Air Quality Department for their perusal.

Please refer to **Appendix G** for the full Air Quality Impact Assessment.

2. IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION AND OPERATIONAL PHASE

Briefly describe the methodology utilised in the rating of significance of impacts

The criteria for the description and assessment of environmental impacts were drawn from the EIA Regulations. Activities within the framework of the proposed development and their respective construction and operational phases, give rise to certain impacts. For the purpose of assessing these impacts, the project has been divided into two phases from which impacting activities can be identified, namely:

a) *Construction phase*
All the construction related activities on site, until the contractor leaves the site.

b) *Operational phase*
All activities, including the operation and maintenance of the proposed development.

c) Decommissioning phase

All decommissioning activities on site, until the contractor leaves the site.

The activities arising from each of these phases have been included in the tables. This is to identify activities that require certain environmental management actions to mitigate the impacts arising from them. The criteria against which the activities were assessed are given in the next section.

Assessment Criteria

The assessment of the impacts has been conducted according to a synthesis of criteria required by the integrated environmental management procedure.

Extent

The physical and spatial scale of the impact is classified as:

a) Footprint: The impacted area extends only as far as the activity, such as footprint occurring within the total site area.
b) Site: The impact could affect the whole, or a significant portion of the site.
c) Regional: The impact could affect the area including the neighbouring farms, the transport routes and the adjoining towns.
d) National: The impact could have an effect that expands throughout the country (South Africa).
e) International: Where the impact has international ramifications that extend beyond the boundaries of South Africa

Duration

The lifetime of the impact, that is measured in relation to the lifetime of the proposed development.

a) Short term: The impact will either disappear with mitigation or will be mitigated through a natural process in a period shorter than that of the construction phase.
b) Short to Medium term: The impact will be relevant through to the end of a construction phase.
c) Medium term: The impact will last up to the end of the development phases, where after it will be entirely negated.
d) Long term: The impact will continue or last for the entire operational lifetime of the development, but will be mitigated by direct human action or by natural processes thereafter.
e) Permanent: This is the only class of impact, which will be non-transitory. Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient.

Intensity

The intensity of the impact is considered by examining whether the impact is destructive or benign, whether it destroys the impacted environment, alters its functioning, or slightly alters the environment itself. The intensity is rated as:

a) Low: The impact alters the affected environment in such a way that the natural processes or functions are not affected.
b) Medium: The affected environment is altered, but functions and processes continue, albeit in a modified way.

c) High: Function or process of the affected environment is disturbed to the extent where it temporarily or permanently ceases.

Probability

This describes the likelihood of the impacts actually occurring. The impact may occur for any length of time during the life cycle of the activity, and not at any given time. The classes are rated as follows:

a) Improbable: The possibility of the impact occurring is none, due either to the circumstances, design or experience. The chance of this impact occurring is zero (0%).
b) Possible: The possibility of the impact occurring is very low, due either to the circumstances, design or experience. The chances of this impact occurring is defined as 25%.
c) Likely: There is a possibility that the impact will occur to the extent that provisions must therefore be made. The chances of this impact occurring is defined as 50%.
d) Highly Likely: It is most likely that the impacts will occur at some stage of the development. Plans must be drawn up before carrying out the activity. The chances of this impact occurring is defined as 75%.
e) Definite: The impact will take place regardless of any prevention plans, and only mitigation actions or contingency plans to contain the effect can be relied on. The chance of this impact occurring is defined as 100%.

Mitigation

The impacts that are generated by the development can be minimised if measures are implemented in order to reduce the impacts. The mitigation measures ensure that the development considers the environment and the predicted impacts in order to minimise impacts and achieve sustainable development.

Determination of Significance – Without Mitigation

Significance is determined through a synthesis of impact characteristics as described in the above paragraphs. It provides an indication of the importance of the impact in terms of both tangible and intangible characteristics. The significance of the impact “without mitigation” is the prime determinant of the nature and degree of mitigation required. Where the impact is positive, significance is noted as “positive”. Significance is rated on the following scale:

a) No significance: The impact is not substantial and does not require any mitigation action.
b) Low: The impact is of little importance, but may require limited mitigation.
c) Medium: The impact is of importance and is therefore considered to have a negative impact. Mitigation is required to reduce the negative impacts to acceptable levels.
d) High: The impact is of major importance. Failure to mitigate, with the objective of reducing the impact to acceptable levels, could render the entire development option or entire project proposal unacceptable. Mitigation is therefore essential.

Determination of Significance – With Mitigation

Determination of significance refers to the foreseeable significance of the impact after the successful implementation of the necessary mitigation measures. Significance with mitigation is rated on the following scale:

a) No significance: The impact will be mitigated to the point where it is regarded as insubstantial.
b) Low: The impact will be mitigated to the point where it is of limited importance.

c) Low to medium: The impact is of importance, however, through the implementation of the correct mitigation measures such potential impacts can be reduced to acceptable levels.
d) Medium: Notwithstanding the successful implementation of the mitigation measures, to reduce the negative impacts to acceptable levels, the negative impact will remain of significance. However, taken within the overall context of the project, the persistent impact does not constitute a fatal flaw.
e) Medium to high: The impact is of major importance but through the implementation of the correct mitigation measures, the negative impacts will be reduced to acceptable levels.
f) High: The impact is of major importance. Mitigation of the impact is not possible on a cost-effective basis. The impact is regarded as high importance and taken within the overall context of the project, is regarded as a fatal flaw. An impact regarded as high significance, after mitigation could render the entire development option or entire project proposal unacceptable.

Assessment Weighting

Each aspect within an impact description was assigned a series of quantitative criteria. Such criteria are likely to differ during the different stages of the project's life cycle. In order to establish a defined base upon which it becomes feasible to make an informed decision, it was necessary to weigh and rank all the criteria.

Ranking, Weighting and Scaling

For each impact under scrutiny, a scaled weighting factor is attached to each respective impact (Figure 1). The purpose of assigning such weights serve to highlight those aspects considered the most critical to the various stakeholders and ensure that each specialist's element of bias is taken into account. The weighting factor also provides a means whereby the impact assessor can successfully deal with the complexities that exist between the different impacts and associated aspect criteria.

Simply, such a weighting factor is indicative of the importance of the impact in terms of the potential effect that it could have on the surrounding environment. Therefore, the aspects considered to have a relatively high value will score a relatively higher weighting than that which is of lower importance.

Extent	Duration	Intensity	Probability	Weighting Factor (WF)	Significance Rating (SR)	Mitigation Efficiency (ME)	Significance Following Mitigation (SFM)
Footprint 1	Short term 1	Low 1	Probable 1	Low 1	Low 0-19	High 0,2	Low 0-19
Site 2	Short to medium 2		Possible 2	Low to medium 2	Low to medium 20-39	Medium to high 0,4	Low to medium 20-39
Regional 3	Medium term 3	Medium 3	Likely 3	Medium 3	Medium 40-59	Medium 0,6	Medium 40-59
National 4	Long term 4		Highly Likely 4	Medium to high 4	Medium to high 60-79	Low to medium 0,8	Medium to high 60-79
International 5	Permanent 5	High 5	Definite 5	High 5	High 80-100	Low 1,0	High 80-100

Figure 1: Description of biophysical assessment parameters with its respective weighting

Identifying the Potential Impacts Without Mitigation Measures (WOM)

Following the assignment of the necessary weights to the respective aspects, criteria are summed and multiplied by their assigned weightings, resulting in a value for each impact (prior to the implementation of mitigation measures).

Equation 1:
Significance Rating (WOM) = (Extent + Intensity + Duration + Probability) x Weighting Factor

Identifying the Potential Impacts With Mitigation Measures (WM)
In order to gain a comprehensive understanding of the overall significance of the impact, after implementation of the mitigation measures, it was necessary to re-evaluate the impact.

Mitigation Efficiency (ME)
The most effective means of deriving a quantitative value of mitigated impacts is to assign each significance rating value (WOM) a mitigation effectiveness rating. The allocation of such a rating is a measure of the efficiency and effectiveness, as identified through professional experience and empirical evidence of how effectively the proposed mitigation measures will manage the impact.

Thus, the lower the assigned value the greater the effectiveness of the proposed mitigation measures and subsequently, the lower the impacts with mitigation.

Equation 2:
Significance Rating (WM) = Significance Rating (WOM) x Mitigation Efficiency
or WM = WOM x ME

Significance Following Mitigation (SFM)
The significance of the impact after the mitigation measures are taken into consideration. The efficiency of the mitigation measure determines the significance of the impact. The level of impact is therefore seen in its entirety with all considerations taken into account.

Briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the construction phase for the various alternatives of the proposed development. This must include an assessment of the significance of all impacts.

Proposal: Slag Milling with LPG Gas as a fuel

Potential impacts:	**Significance rating of impacts:**	**Proposed mitigation:**	**Significance rating of impacts after mitigation:**
CONSTRUCTION PHASE			
Storm water contamination from hydrocarbon spills from construction vehicles	MEDIUM	• All construction vehicles should be kept in good working condition; • All construction vehicles should be parked in demarcated areas when not in use; • Drip trays should be placed under construction vehicles when not in use; to collect any spillages/leaks; and • If a hydrocarbon spillage occurs, clean it up immediately and dispose of at an appropriate registered landfill site.	**LOW – MEDIUM**

Increase in Dust and Noise Generation from construction activities	LOW	• Rubble should not be left on site for prolonged periods as it will become susceptible to wind action; • The paved areas of the site will limit the amount of dust on site, and general housekeeping should be done; and • Avoid unnecessary movement of construction vehicles on site	**LOW**
OPERATIONAL PHASE			
Safety risks due to potential gas leaks	MEDIUM	• Leak detection equipment must be installed at key points along the pipelines; • The pipes that are used must be pressure tested to detect any structural weakness prior to installation; • All materials used must be South African Bureau of Standards (SABS) approved; and • All relevant fire, safety and health permits must be obtained	**LOW**
Storm water contamination from material spills	MEDIUM	• Housekeeping must be maintained at all times. • Spilled material should not be allowed to remain outside of the designated areas for prolonged periods.	**LOW – MEDIUM**

Alternative 1: Diesel or LO10 as a suitable fuel

Potential impacts:	**Significance rating of impacts:**	**Proposed mitigation:**	**Significance rating of impacts after mitigation:**
CONSTRUCTION PHASE			
Storm water contamination from hydrocarbon spills from construction vehicles	MEDIUM	• All construction vehicles should be kept in good working condition; • All construction vehicles should be parked in demarcated areas when not in use; • Drip trays should be placed under construction vehicles when not in use; to collect any spillages/leaks; and • If a hydrocarbon spillage occurs, clean it up immediately and dispose of at an appropriate registered landfill site.	**LOW – MEDIUM**
Increase in Dust and Noise Generation from construction activities	LOW	• Rubble should not be left on site for prolonged periods as it will become susceptible to wind; • The paved areas of the site will limit the amount of dust on site,	**LOW**

		and general housekeeping should be done; and • Avoid unnecessary movement of construction vehicles on site	
OPERATIONAL PHASE			
Fire hazard and associated safety risks	MEDIUM	• Leak detection equipment must be installed at key points along the pipelines that will feed the combustion chamber; • The tanks that are used must be pressure tested to detect any structural weakness prior to installation; • All materials used must be South African Bureau of Standards (SABS) approved; • The tank farm must be above ground and inspected regularly for leaks; and • All relevant fire, safety and health permits must be obtained.	**LOW**
Potential ground water contamination if tank farm bunding and impermeable surface not maintained	LOW – MEDIUM	• The bunding and surface of the tank farm must be well maintained and impermeable; • There should be a hydrocarbon trap installed at the re-fuelling area; • The tanks used must be SABS approved and must not be used past their life span; and • The tanks should be checked regularly for any leaks and daily stock reconciliation should be used to determine if any leaks are present	**LOW – MEDIUM**
Reduction in potential waste stream of LO10	-	Use LO10 as fuel for the processing of slag	**MEDIUM positive**
Reduction in Carbon footprint in future with the potential of using Bio – diesel	-	Use diesel as a fuel for processing slag and in future replace with bio – diesel	**HIGH positive**

List any specialist reports that were used to fill in the above tables. Such reports are to be attached in the appropriate Appendix.

- Air quality impact Assessment. Refer to Appendix G

3. IMPACTS THAT MAY RESULT FROM THE DECOMISSIONING AND CLOSURE PHASE

Briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the decommissioning and closure phase for the various alternatives of the proposed development. This must include an assessment of the significance of all impacts.

Proposal: Slag Milling with LPG Gas as a fuel

The PPC Jupiter plant is an existing and operational plant that is approved to mill clinker and produce cement. The proposed additions to the current infrastructure to process slag will only be the installation of a gas pipeline, a combustion and drying chamber (which will be attached onto Raw Mill 3). It should be noted that the plant cannot mill clinker and slag at the same time as the raw material storage, mill and product storage is the same infrastructure needed for both processes. Should the applicant decide in future to stop processing slag and mill clinker only, the additional components as outlined above will be removed from the site, recycled where possible and disposed of at an appropriately registered landfill site.

Therefore the largest impact associated with decommissioning the slag milling components will be the disposal of the components, which is not rated as a significant impact.

Alternative 1: Diesel or LO10 as a suitable fuel

The PPC Jupiter plant is an existing and operational plant that is approved to mill clinker and produce cement. The proposed additions to the current infrastructure to process slag will only be the installation of a tank farm, a combustion and drying chamber (which will be attached onto Raw Mill 3). It should be noted that the plant cannot mill clinker and slag at the same time as the raw material storage, mill and product storage is the same infrastructure needed for both processes. Should the applicant decide in future to stop processing slag and mill clinker only, the additional components as outlined above will be removed from the site, recycled where possible and disposed of at an appropriately registered landfill site.

Therefore the largest impact associated with decommissioning the slag milling components will be the disposal of the components, which is rated with a medium significance (due to the size of the tank farm).

List any specialist reports that were used to fill in the above tables. Such reports are to be attached in the appropriate Appendix.

- Air quality impact Assessment. Refer to Appendix G

4. CUMULATIVE IMPACTS

Describe potential impacts that, on their own may not be significant, but is significant when added to the impact of other activities or existing impacts in the environment. Substantiate response:

Based on the Air Quality Impact Assessment, the cumulative impacts associated with the proposed slag milling i.e. increase in Sulphur dioxides, Nitrogen oxides, PM10 and PM2.5 have been found to be within national air quality standards or occupational exposure standards (which are relevant for industrial areas). Therefore there are no significant cumulative impacts associated with the proposed slag milling process.

5. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that sums up the impact that the proposal and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Proposal: Slag Milling with LPG Gas as a fuel

CONSTRUCTION PHASE

1. Storm water contamination

Activity	**Oil and fuel leaks from construction vehicles**			
Nature of the impact	**Storm water quality deteriorates as it has been compromised**		Status	-
Receiving environment	**Storm water**			
Magnitude	*Extent*	Site		
	Intensity	Medium		
	Duration	Medium		
	Probability	Possible		
Significance	*Without mitigation (WOM)*	*(Extent + Intensity + Duration + Probability) x Weighting Factor* *(2 + 3 + 3 + 2) x 4 = 40* *Medium*		
	With mitigation (WM)	*WOM x ME = WM* *40 x 0.6 = 24* *Low – Medium*		
Significance With Mitigation (WM)	**LOW – MEDIUM**			
Irreversibility	Low			
Is an irreplaceable resource impacted	NO			
Confidence level	Medium			

Source and Description of the Impact

When oil and fuel leaks occur from construction vehicles or accidental spills, they may come into contact with the storm water present on site (due to the hard surfaces present) and it will compromise the quality of the water, hence cause it to deteriorate as it continues through the existing storm water system.

Mitigation Measures

- All construction vehicles should be kept in good working condition;
- All construction vehicles should be parked in demarcated areas when not in use;
- Drip trays should be placed under construction vehicles when not in use; to collect any spillages/leaks; and
- If a hydrocarbon spillage occurs, clean it up immediately and dispose of at an appropriate registered landfill site.

Significance of the impact

The extent of the impact is rated as site. The intensity is rated as medium. The impact will last up

to the end of the development phases, where after it will be entirely negated hence the duration is rated as medium term. There is a possibility that the impact will occur. Therefore the significance rating before mitigation measures is medium. The mitigation efficiency is rated as medium. Therefore the significance after the mitigation measures is rated as low - medium.

2. Increase in Dust and Noise Generation

Activity	**Construction activities associated with the LPG pipeline**			
Nature of the impact	**Increased dust and pollution during construction activities**		Status	-
Receiving environment	**Surrounding land owners and workers on site**			
Magnitude	*Extent*	Site		
	Intensity	Medium		
	Duration	Short - Medium term		
	Probability	Likely		
Significance	*Without mitigation (WOM)*	*(Extent + Intensity + Duration + Probability) x Weighting Factor* *(2 + 2 + 2 + 3) x 2 = 18* *Low*		
	With mitigation (WM)	*WOM x ME = WM* *18 x 0.4 = 7.2* *Low*		
Significance With Mitigation (WM)	**LOW**			
Irreversibility	Low			
Is an irreplaceable resource impacted	NO			
Confidence level	Medium			

Source and Description of the Impact

Construction activities associated with the installation of the gas pipeline will result in increased dust and noise generation within the area. This could cause health effects to workers who have respiratory diseases and eye problems.

Mitigation Measures

- Rubble should not be left on site for prolonged periods as it will become susceptible to wind action;
- The paved areas of the site will limit the amount of dust on site, and general housekeeping should be done; and
- Avoid unnecessary movement of construction vehicles on site.

Significance of the impact

The extent of the impact is limited to site as the impact could affect the greater portion of the site. The intensity is rated as medium. The impact will last up to the end of the construction phase and the duration of the impact is rated as short – medium term. The probability of the impact is rated as likely as the impact will occur at some stage of the development in some form or the other. Therefore the significance of the impact before mitigation measures is rated as low – medium. The mitigation efficiency is rated as medium - high; hence the significance after

mitigation measures is rated as low.

OPERATIONAL PHASE

1. Safety risks due to potential gas leaks

Activity	**Gas leaks from the main pipeline or feeder pipelines**			
Nature of the impact	**Safety risks to workers on site**		Status	-
Receiving environment	**Site**			
Magnitude	*Extent*	Site		
	Intensity	Medium		
	Duration	Long term		
	Probability	Possible		
Significance	*Without mitigation (WOM)*	*(Extent + Intensity + Duration + Probability) x Weighting Factor* *(2 + 3 + 4 + 2) x 4 = 44* *Medium*		
	With mitigation (WM)	*WOM x ME = WM* *44 x 0.4 = 17.6* *Low*		
Significance With Mitigation (WM)	**LOW**			
Irreversibility	Low			
Is an irreplaceable resource impacted	NO			
Confidence level	Medium			

Source and Description of the Impact

There is a possibility that gas leaks could occur from the main pipeline or feeder line into the combustion chamber. This possibility has a potential safety and health risk to the workers on site.

Mitigation Measures

- Leak detection equipment must be installed at key points along the pipelines;
- The pipes that are used must be pressure tested to detect any structural weakness prior to installation;
- All materials used must be South African Bureau of Standards (SABS) approved; and
- All relevant fire, safety and health permits must be obtained.

Significance of the impact

The extent of the impact is rated as site. The intensity is rated as medium. The impact will be present throughout the operational phase of the activity hence the duration is rated as long term. There is a possibility that the impact will occur. Therefore the significance rating before mitigation measures is medium. The mitigation efficiency is rated as medium – high. Therefore the significance after the mitigation measures is rated as low.

2. Storm water contamination from material spills

Activity	**Material spills during offloading of raw and milled slag**			
Nature of the impact	**Storm water quality deteriorates as it has been compromised**		Status	-
Receiving environment	**Storm water**			
Magnitude	*Extent*	Site		
	Intensity	Medium		
	Duration	Medium		
	Probability	Possible		
Significance	*Without mitigation (WOM)*	*(Extent + Intensity + Duration + Probability) x Weighting Factor* *(2 + 3 + 3 + 2) x 4 = 40* *Medium*		
	With mitigation (WM)	*WOM x ME = WM* *40 x 0.6 = 24* *Low – Medium*		
Significance With Mitigation (WM)	**LOW – MEDIUM**			
Irreversibility	Low			
Is an irreplaceable resource impacted	NO			
Confidence level	Medium			

Source and Description of the Impact

During offloading of the raw and milled slag, material spills may occur and they may come into contact with the storm water present on site (due to the hard surfaces present) and it will compromise the quality of the water (as it is known for leaching), hence cause it to deteriorate as it continues through the existing storm water system.

Mitigation Measures

- Housekeeping must be maintained at all times.
- Spilled material should not be allowed to remain outside of the designated areas for prolonged periods.

Significance of the impact

The extent of the impact is rated as site. The intensity is rated as medium. The impact will last up to the end of the development phases, where after it will be entirely negated hence the duration is rated as medium term. There is a possibility that the impact will occur. Therefore the significance rating before mitigation measures is medium. The mitigation efficiency is rated as medium. Therefore the significance after the mitigation measures is rated as low - medium.

Alternative 1: Diesel or LO10 as a suitable fuel

CONSTRUCTION PHASE

THE IMPACTS ASSOCIATED WITH THIS ALTERNATIVE WILL BE THE SAME AS THE PROPOSAL AS THE CONSTRUCTION ACTIVITIES WILL BE RELATED TO THE CONSTRUCTION OF A TANK FARM.

OPERATIONAL PHASE

1. Fire hazard and associated safety risks

Activity	**Fire hazard and associated safety risks**			
Nature of the impact	**Safety risks to workers on site**		Status	-
Receiving environment	**Site**			
Magnitude	*Extent*	Site		
	Intensity	Medium		
	Duration	Long term		
	Probability	Possible		
Significance	*Without mitigation (WOM)*	*(Extent + Intensity + Duration + Probability) x Weighting Factor* *(2 + 3 + 4 + 2) x 4 = 44* *Medium*		
	With mitigation (WM)	*WOM x ME = WM* *44 x 0.4 = 17.6* *Low*		
Significance With Mitigation (WM)	**LOW**			
Irreversibility	Low			
Is an irreplaceable resource impacted	NO			
Confidence level	Medium			

Source and Description of the Impact

There is a possibility that spills and leaks could occur during refuelling procedures. This possibility represents a potential fire hazard and safety and health risk to the workers on site, as the fuel could be ignited.

Mitigation Measures

- Leak detection equipment must be installed at key points along the pipelines that will feed the combustion chamber;
- The tanks that are used must be pressure tested to detect any structural weakness prior to installation;
- All materials used must be South African Bureau of Standards (SABS) approved;
- The tank farm must be above ground and inspected regularly for leaks; and
- All relevant fire, safety and health permits must be obtained.

Significance of the impact

The extent of the impact is rated as site. The intensity is rated as medium. The impact will be present throughout the operational phase of the activity hence the duration is rated as long term. There is a possibility that the impact will occur. Therefore the significance rating before mitigation measures is medium. The mitigation efficiency is rated as medium – high. Therefore the significance after the mitigation measures is rated as low.

2. Potential ground water contamination

Activity	**Oil and fuel leaks from the tanks or during re-fuelling procedures**			
Nature of the impact	**Ground water quality deteriorates**		Status	**-**
Receiving environment	**Ground water**			
Magnitude	*Extent*	Regional		
	Intensity	Medium		
	Duration	Medium		
	Probability	Possible		
Significance	*Without mitigation (WOM)*	*(Extent + Intensity + Duration + Probability) x Weighting Factor* *(3 + 3 + 3 + 2) x 3 = 33* *Low – Medium*		
	With mitigation (WM)	*WOM x ME = WM* *33 x 0.6 = 19.8* *Low – Medium*		
Significance With Mitigation (WM)	**LOW – MEDIUM**			
Irreversibility	Low			
Is an irreplaceable resource impacted	NO			
Confidence level	Medium			

Source and Description of the Impact

When oil and fuel leaks occur from the tanks being structurally compromised or during re-fuelling, they may come into contact with the ground water if the bunding and surface of the tank farm is not maintained.

Mitigation Measures

- The bunding and surface of the tank farm must be well maintained and impermeable;
- There should be a hydrocarbon trap installed at the re-fuelling area;
- The tanks used must be SABS approved and must not be used past their life span; and
- The tanks should be checked regularly for any leaks and daily stock reconciliation should be used to determine if any leaks are present.

Significance of the impact

The extent of the impact is rated as regional. The intensity is rated as medium. The impact will last up to the end of the development phases, where after it will be entirely negated hence the duration is rated as medium term. There is a possibility that the impact will occur. Therefore the significance rating before mitigation measures is low – medium. The mitigation efficiency is rated as medium. Therefore the significance after the mitigation measures is rated as low - medium.

3. Reduction in a potential waste stream by utilising LO10 as a fuel

By utilising Light Oil 10 as a fuel in the slag milling process, the LO10 that would normally be disposed of at a registered landfill site, will now be used. Thus there is a reduction in a potential waste stream, and therefore this impact is rated as having a **medium positive** significance.

4. Reduction in Carbon footprint in the future with the potential of utilising bio – diesel

In the future, there may be a possibility of utilising bio – diesel as a fuel alternative to diesel. Thus there will be a reduction in the carbon footprint of the plant (as a whole) as bio – diesel is more environmentally friendly than normal diesel. Therefore this impact is rated as having a **high positive** significance.

No-go (compulsory)

Should the no – go option be approved, the status quo of the site will remain, and the plant will only mill clinker (as currently approved). The local construction industry will not benefit from having larger volumes of processed slag available for infrastructure development. Thus there may be cement availability issues in some areas of the country which will have a knock on effect on the development and progress of the economy as a whole.

6. IMPACT SUMMARY OF THE PROPOSAL OR PREFERRED ALTERNATIVE

For proposal:

As described in Section 5 above the impacts associated with the proposal as a whole are:

Construction Phase:

Impact	Significance After Mitigation
Storm Water Contamination	Low - Medium
Increased Dust and Noise Generation	Low
Increased Noise Generation	Low

Operational Phase:

Impact	Significance After Mitigation
Safety risks due to potential gas leaks	Low
Storm Water contamination from material spills	Low - Medium

For alternative: Diesel or LO10 as a suitable fuel

As described in Section 5 above the impacts associated with the alternative to use diesel or LO10 as a fuel as a whole are:

Construction Phase:

Impact	Significance After Mitigation
Storm Water Contamination	Low - Medium
Increased Dust and Noise Generation	Low
Increased Noise Generation	Low

Operational Phase:

Impact	Significance After Mitigation
Fire hazard as associated fire risks	Low
Potential ground water contamination	Low – Medium
Reduction in a potential waste stream of LO10	Medium Positive
Reduction in Carbon footprint in future by using bio – diesel	High Positive

Having assessed the significance of impacts of the proposal and alternative(s), please provide an overall summary and reasons for selecting the proposal or preferred alternative.

It has been illustrated that with the implementation of the above mitigation measures and Environmental Management Programme, the impacts associated with the proposal can be mitigated to acceptable levels thus allowing the development to proceed. Due to the environmentally friendly nature of gas (in comparison to diesel and used oil), there are less air emissions and based on the Air Quality Study and mitigation measures recommended the impacts can be mitigated to approved acceptable levels. The safety and fire concerns associated with the tank farm far outweigh those associated with the gas pipeline / trailer.

Therefore the proposal to mill slag using LPG Gas as a fuel is the preferred option.

7. RECOMMENDATION OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the Environmental Assessment Practitioner)?	**YES**	
	X	

If "NO", indicate the aspects that require further assessment before a decision can be made (list the aspects that require further assessment):

If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application:

- The Environmental Management Programme is a legally binding document and must be implemented.
- An updated Air Emissions License (AEL) must be obtained prior to commencing slag milling operations.
- All requirements of the updated AEL must be adhered to.
- All relevant fire, safety and health permits must be obtained.

8. ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)

If the EAP answers yes to Point 7 above then an EMP is to be attached to this report as an Appendix

EMPr attached	YES

SECTION F: APPENDIXES

The following appendixes must be attached as appropriate:

It is required that if more than one item is enclosed that a table of contents is included in the appendix

Appendix A: Site plan(s)

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Route position information

Appendix E: Public participation information

Appendix F: Water use license(s) authorisation, SAHRA information, service letters from municipalities, water supply information

Appendix G: Specialist reports

Appendix H: EMPr

Appendix I: Other information

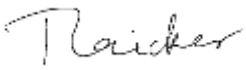
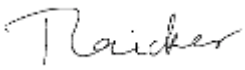
CHECKLIST

To ensure that all information that the Department needs to be able to process this application, please check that:

- Where requested, supporting documentation has been attached;
- All relevant sections of the form have been completed; and

DOCUMENT CONTROL
FORM IP180_B

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

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

	Prepared by	Prepared By	Prepared By
ORIGINAL	NAME	NAME	NAME
DATE	SIGNATURE	SIGNATURE	SIGNATURE

	Approved By	Reviewed By	Prepared By
REVISION	NAME	NAME	NAME
DATE	SIGNATURE	SIGNATURE	SIGNATURE

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