environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

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File Reference Number:	
Application Number:	
Date Received:	

Basic assessment report in terms of the Environmental Impact Assessment Regulations, 2010, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2010 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. This report format is current as of **1 August 2014**. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
3. 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.
4. Where applicable **tick** the boxes that are applicable in the report.
5. An incomplete report may be returned to the applicant for revision.
6. 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.
7. This report must be handed in at offices of the relevant competent authority as determined by each authority.
8. No faxed or e-mailed reports will be accepted.
9. The signature of the EAP on the report must be an original signature.
10. The report must be compiled by an independent environmental assessment practitioner.
11. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
12. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
13. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.

14. Two (2) colour hard copies and one (1) electronic copy of the report must be submitted to the competent authority.
15. Shape files (.shp) for maps must be included in the electronic copy of the report submitted to the competent authority.

SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section?	YES ✔	NO

If YES, please complete the form entitled "Details of specialist and declaration of interest" for the specialist appointed and attach in Appendix I.

1. PROJECT DESCRIPTION

a) Describe the project associated with the listed activities applied for

The Sishen-Saldanha line, Transnet Freight Rail's (TFR) export iron ore corridor, forms the backbone of the company's growth strategy. As part of Transnet Freight Rail expansion on the Sishen-Saldanah iron Ore line, Eskom Holdings SOC Limited (Eskom) was requested by TFR to provide advice and the provision in this regard. For such an operation expansion, the TFR will be replacing the 9E electrical locomotives and diesel locomotives with the new energy efficient 15E electrical Locomotives.

The recommended solution to enable TFR to expand their operations without the overloading and interruption of the supply entails the Construction of the new 50kV Transnet Traction Feeder Substation. The TFS will cover an area of 60m x 60m and the main types of equipment inside the fenced area will include switches, circuit breakers, support gantries for cables and control panels mounted on standard concrete foundations. Further a pole mount 50Kv to 230kV transformers will be installed inside the TFS to provide power to the existing Transnet building and structures on the Transnet property that are currently served by the existing TFS that will be decommissioned.

The proposed project will be located on the remaining portion of the Farm Bokpoort 390 within the jurisdiction of Kai!Garib Local Municipality in the Northern Cape Province of South Africa.

The aforementioned activities are listed activities under GNR 544 (Listing Notice 1) Activity 10 (i), therefore an Environmental Authorization must be obtained in terms of the National Environmental Management Act, 1998 (Act No. 107of 1998) and the Environmental Impact Assessment Regulations, 2010.

b) Provide a detailed description of the listed activities associated with the project as applied for

Listed activity as described in GN R.544, 545 and 546	Description of project activity
Example: ***GN R.544 Item 11(3): The construction of a bridge where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such***	***A bridge measuring 5 m in height and 10m in length, no wider than 8 meters will be built over the Orange river***

construction will occur behind the development setback line.	
GN R 544 Activity 10(i): The construction of facilities or infrastructure for the transmission and distribution of electricity outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts.	Construction of the 50kV Transnet Garona Traction Feeder Substation.

2. FEASIBLE AND REASONABLE ALTERNATIVES

"alternatives", in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

(a) the property on which or location where it is proposed to undertake the activity;
(b) the type of activity to be undertaken;
(c) the design or layout of the activity;
(d) the technology to be used in the activity;
(e) the operational aspects of the activity; and
(f) the option of not implementing the activity.

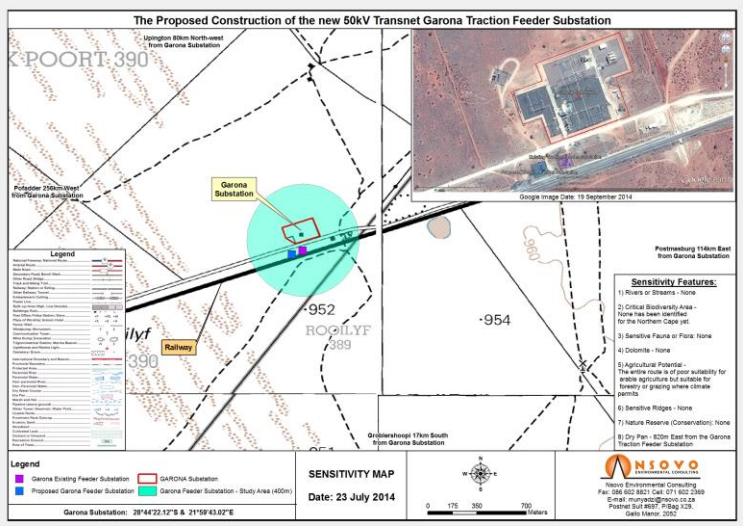
Describe alternatives that are considered in this application as required by Regulation 22(2)(h) of GN R.543. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity (NOT PROJECT) could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed.

The determination of whether 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. 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.

The identification of alternatives should be in line with the Integrated Environmental Assessment Guideline Series 11, published by the DEA in 2004. Should the alternatives include different locations and lay-outs, the co-ordinates of the different alternatives must be provided. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

a) Site alternatives

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)

The proposed project will be located on the remaining portion of the Farm Bokpoort 390 and portion 4 and remaining portion of the same farm within the jurisdiction of the !Kheis Local Municipality in the Northern Cape Province of South Africa as depicted below.  The proposed project will entail construction of 50kV traction feeder substation.	28°44'22.12"S	21°59'43.02"E
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)
The proposed project aims to strengthen capacity to ensure efficient operation of existing infrastructure, therefore the siting is highly reliant on the existing infrastructure, and hence no site alternatives were considered as it would defeat the purpose.		

In the case of linear activities:

Alternative:	**Latitude (S):**	**Longitude (E):**
Alternative S1 (preferred) • Starting point of the activity • Middle/Additional point of the activity • End point of the activity		
Alternative S2 (if any) • Starting point of the activity • Middle/Additional point of the activity • End point of the activity		
Alternative S3 (if any) • Starting point of the activity • Middle/Additional point of the activity		

- End point of the activity

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

In the case of an area being under application, please provide the co-ordinates of the corners of the site as indicated on the lay-out map provided in Appendix A.

b) Lay-out alternatives

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

c) Technology alternatives

Alternative 1 (preferred alternative)
Use of SF6 gas insulated circuit breakers instead of oil insulated circuit breakers; oil insulated auxiliary, voltage and current transformers.
Alternative 2
Use SF6 gas insulated auxiliary, voltage and current transformers. However, this is not preferred due to excessive costs and practical constraints.
Alternative 3

d) Other alternatives (e.g. scheduling, demand, input, scale and design alternatives)

Alternative 1 (preferred alternative)
Alternative 2
Alternative 3

e) No-go alternative

In accordance with GN R543, consideration must be given to the option not to develop. This option is usually considered when the proposed development is envisaged to have such significant negative environmental impacts that mitigation measures cannot ameliorate the identified impacts effectively.

The no-go option would be the option of not undertaking the proposed project but maintaining the status quo. This means that the 9E Electrical Locomotives and Diesel Locomotives will continue to

operate making room for overloading and interruption of power supply. Furthermore, this will have the potential of inhibiting the TFR's growth.

Paragraphs 3 – 13 below should be completed for each alternative.

3. PHYSICAL SIZE OF THE ACTIVITY

a) Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

Alternative:	**Size of the activity:**
Alternative A1[1] (preferred activity alternative)	2500m²
Alternative A2 (if any)	m²
Alternative A3 (if any)	m²

or, for linear activities:

Alternative:	**Length of the activity:**
Alternative A1 (preferred activity alternative)	
Alternative A2 (if any)	m
Alternative A3 (if any)	m

b) Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

Alternative:	**Size of the site/servitude:**
Alternative A1 (preferred activity alternative)	
Alternative A2 (if any)	m²
Alternative A3 (if any)	m²

4. SITE ACCESS

Does ready access to the site exist?	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:

Access road to site already exists. The primary access to the site will be the National Route 10 (N10) and direct access will be through the Sishen-Saldanha railway line service road which is a gravel track.

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

[1] "Alternative A.." refer to activity, process, technology or other alternatives.

The position of the road is depicted in the site plan attached as Appendix A.

5. LOCALITY MAP

An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.). The map must indicate the following:

- an accurate indication of the project site position as well as the positions of the alternative sites, if any;
- indication of all the alternatives identified;
- closest town(s;)
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (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 degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection).

Locality Map is attached as Appendix A.

6. LAYOUT/ROUTE PLAN

A detailed site or route 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 property boundaries and numbers of all the properties within 50 metres of the site;
- the current land use as well as the land use zoning of the site;
- the current land use as well as the land use zoning each of the properties adjoining the site or sites;
- the exact position of each listed activity applied for (including alternatives);
- servitude(s) indicating the purpose of the servitude;
- a legend; and
- a north arrow.

Layout Plan is attached as Appendix A.

7. SENSITIVITY MAP

The layout/route plan as indicated above must be overlain with a sensitivity map that indicates all the sensitive areas associated with the site, including, but not limited to:

- watercourses;
- the 1:100 year flood line (where available or where it is required by DWA);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas.

The sensitivity map must also cover areas within 100m of the site and must be attached in Appendix A.

Sensitivity Map is attached as Appendix A.

8. SITE PHOTOGRAPHS

Colour photographs from the centre 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 Appendix B to this report**.** It must be supplemented with additional photographs of relevant features on the site, if applicable.

Eight - directional Colour photographs are attached as Appendix B.

9. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of at least 1:200 as Appendix C 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.

Facility Illustration is attached as Appendix C.

10. ACTIVITY MOTIVATION

Motivate and explain the need and desirability of the activity (including demand for the activity):

1. Is the activity permitted in terms of the property's existing land use rights?	YES ✔	NO	Please explain
The proposed activity entails the upgrade of a substation and construction of a 0.5km power line adjacent the existing infrastructure.			

2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES ✔	NO	Please explain
According to the Northern Cape SDF, an effective, competitive and responsive infrastructure network is imperative for on-going economic development of the province. Much of the province's primary agricultural and mineral production is produced in localities distant from markets and from points of export. The proposed project is part of the programme of increasing electricity supply capacity to allow for improved infrastructure.			
(b) Urban edge / Edge of Built environment for the area	YES ✔	NO	Please explain
The proposed project is outside the urban edge.			
(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).	YES	NO ✔	Please explain
The current IDP and SDF promote industrial development and it is very specific about supply of power in its clearly stated support of National and Provincial Government's key projects. Further it supports Strategic Infrastructural Project.			
(d) Approved Structure Plan of the Municipality	YES	NO ✔	Please explain
It is not within the Municipality's mandate to approve Eskom Structure Plan; however, the municipality has been identified as a primary stakeholder eligible to comment.			
(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)	YES ✔	NO	Please explain
The proposed project will have various environmental impacts of varying significance as outlined in Appendix F that to an extent may compromise the integrity of the EMF if not well managed. However, the long term developmental and sustainability goals coupled with increased economic activity and overarching benefits to both the region and the country in terms of power supply, justifies the project.			
(f) Any other Plans (e.g. Guide Plan)	YES	NO ✔	Please explain
None identified.			
3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?	YES ✔	NO	Please explain
The proposed project is an energy supply related project which is priority for the municipality and the country at large.			

4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)	YES ✔	NO	Please explain
The industrial community needs the activity to be able to operate at maximum capacity, thus enhancing the country's economy.			
5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)	YES ✔	NO	Please explain
The required services for the proposed project include primarily access roads which already exist. The roads that are currently used for maintenance of the existing substation, power and railway lines will be used during the construction phase.			
6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)	YES ✔	NO	Please explain
The proposed project is specifically needed by Transnet, without this project, they will not be able to proceed with the proposed locomotive upgrade to allow the Iron Ore line to realise its full potential. The proposed project has been identified by the Municipality as a SIP; therefore it is much needed as it will add support to form part of a link to strengthen the economy. This project will allow for load growth and will improve reliability of supply to the end user thus allowing the Municipality to achieve their plan as set out in the IDP.			
7. Is this project part of a national programme to address an issue of national concern or importance?	YES ✔	NO	Please explain
The Sishen-Saldanha line forms the backbone of South Africa's economy for the supply of iron-ore; it is part of the Strategic Infrastructure Projects (SIP) which particularly emphasise on mining-related investment. Therefore the proposed project is a customer application from Transnet to Eskom with the objective being to enhance the operation of the Sishen-Saldanha line.			
8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)	YES ✔	NO	Please explain
The proposed expansion of Garona Substation and 50kV powerline is located in close proximity to the Sishen-Saldanha Iron Ore line and close to the proposed new Traction Feeder Station; therefore the proposed location perfectly favours the proposed land use.			

9. Is the development the best practicable environmental option for this land/site?	YES ✔	NO	Please explain
The proposed site is already disturbed due to existing infrastructure and on-going expansion of the Eskom Garona substation to accommodate IPP project, construction of Solar Plant, the Railway line and the existing Transnet Traction feeder station.			
10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	YES ✔	NO	Please explain
The proposed project will have economic benefits for the community, Municipality and the country at large. The identified impacts will be managed according to the recommendations from the specialists as well as the EMP approved by the department. The benefits of the proposed project will outweigh the negative impacts. The negative impacts have been identified and mitigation measures proposed.			
11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	YES	NO ✔	Please explain
The proposed project will no set a precedent, it will follow suite to the upgrade and expansion of the existing electrical infrastructure in the area.			
12. Will any person's rights be negatively affected by the proposed activity/ies?	YES	NO ✔	Please explain
The Constitution of South Africa Act No. 108 of 1996 provides for an environmental right (contained in the Bill of Rights, Chapter 2). In terms of Section 7, the state has an obligation to respect, promote and fulfil the rights as defined in the Bill of Rights. The undertaking of the Basic Assessment process is in line with the state's obligations as outlined in the constitution in its effort to ensure sustainability.			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?	YES	NO ✔	Please explain
The proposed project is outside the urban edge.			
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?	YES	NO	Please explain
The proposed project is SIP 5 which entails: • Integrated rail and port expansion • Back-of-port industrial capacity (including an industrial development zone) • Strengthening maritime support capacity for oil and gas along the African West Coast; and • The expansion of iron ore mining production and beneficiation. The Saldanha Port iron ore infrastructure and operations will be expanded to increase South Africa's iron ore export capacity. The mining industry plays a vital role in the growth and development of South Africa and its economy.			

15. What will the benefits be to society in general and to the local communities?	Please explain
The proposed project will directly benefit Transnet Freight Rail as it will allow them to undertake their proposed upgrades and allow them to operate efficiently. Further the project will aid economic growth which will in turn benefit society in general, the locals and the country at large.	
16. Any other need and desirability considerations related to the proposed activity?	Please explain
None.	
17. How does the project fit into the National Development Plan for 2030?	Please explain
The New Growth Path sets a goal of creating five million new jobs by 2020 and highlights opportunities in specific sectors and markets to drive job creation. Despite the industry current challenges including the recent labour unrest, falling productivity levels and increasing input price pressure, the mining sector has been identified as one of the most significant sectors to drive job creation. Mining continues to be one of the most significant sectors of the South African economy, providing jobs, contributing 8.6% to Gross Domestic Product (GDP) and building relations with international trading partners. It is critical that South Africa's mineral resources be directed to benefit key social and economic objectives for sustained growth and meaningful transformation. It is expected that the proposed project will enhance the operation of the industry and ensure continued growth and hence a stronger economy for the benefit for all.	
18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.	
The general objectives of IEM have been taken into account by means of identifying, evaluating, and predicting the actual and potential impacts on the natural, cultural and social environment. The risks, consequences and mitigation measures have been considered to minimise the negative impacts, enhance the positive impacts and promote compliance with environmental management principles.	
19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.	
The principles of NEMA have been considered in this assessment through compliance with the requirements of the applicable legislation. This BAR ensures that the impacts of the proposed activity on the environment are thoroughly and comprehensively assessed to ensure sustainability. Further, successful implementation of the EMPr will aid in minimising pollution and environmental degradation. The undertaking of the Basic Assessment process has been transparent in approach and as such involves Interested and Affected Parties (I&AP), landowners, organs of state and other key stakeholders, which will ensure that well informed decision is undertaken by the Authority.	

11. 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, if applicable:

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
Republic of South Africa – Constitution, Act 108 of 1996	The Constitution of South Africa Act No. 108 of 1996 provides for an environmental right (contained in the Bill of Rights, Chapter 2). In terms of Section 7, the state has an obligation to respect, promote and fulfil the rights as defined in the Bill of Rights. The environmental right states that: "Everyone has the right - a) To an environment that is no b)To have the environment protected, for • Prevent pollution and ecological degradation; • Promote conservation; and • Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development." The undertaking of the BA process is in line with the state's obligations as outlined in the constitution in its effort to ensure sustainability.	National Government	1996
National Environmental Management Act, Act 107 of 1998 (as amended in 2009)	The overarching principles of sound environmental responsibility are reflected in the National Environmental Management Act (NEMA The principles set out in the National Environmental Management Act, 1998 (Act No. 107 of 1998), hereafter referred to as NEMA, applies to all listed projects. Construction and operation have to be conducted in line with the generally accepted principles of sustainable development, integrating social, economic and environmental factors.	National & Provincial Government	1998
National Environmental Management: Biodiversity Act, Act 10 of 2004	The purpose of the Biodiversity Act is to provide for the management and conservation of South Africa's	National & Provincial Government	2004

	biodiversity within the framework of the NEMA and the protection of species and ecosystems that warrant national protection. As part of its implementation strategy, the National Spatial Biodiversity Assessment was developed. The diversity of ecological processes for the application sites was determined through the specialist studies conducted previously in the area. The specialist studies have not identified sensitive areas within the study area that may need to be avoided and further proposed mitigation measures in which the biodiversity on site is to be managed.		
National Environmental Management: Air Quality Act, Act 39 of 2004	The objective of the Act is to protect the environment by providing reasonable measures for the protection and enhancement of the quality of air and to prevent pollution of air and ecological degradation. Part 6 of the Act makes provision for measures to control dust, noise and offensive odours. The assessment of impacts relating to air quality control and management, where appropriate, will form part of the environmental impact assessment report and environmental management plan. The Proposed Area has not been declared as a dust control area in terms of section 27 of the APPA. The proposed project may create minimal dust during excavations which is expected to be short term and site specific.	National & Provincial Government	2004
National Water Act, Act 36 of 1998	The Act ensures protection of water resources. There are no identified streams and wetlands in proximity to the proposed therefore the requirements of the Act may not necessarily apply directly. It is however, recommended that the resources be protected at all times.	National & Provincial Government	1998
National Heritage Act, Act 25	The Act legislates the necessity for	National &	1999

of 1999	cultural and heritage impact assessments in areas earmarked for development, which exceed 0.5ha. The Act makes provision for potential destruction to existing sites, pending the archaeologist's recommendations through permitting procedures. Permits are administered by the South African Heritage Resources Agency (SAHRA). No significant archaeological materials were identified on the footprint of the proposed power-line and traction.	Provincial Government	
Noise Control Regulations in terms of the Environmental Conservation Act 73 of 1989	The assessment of impacts relating to noise pollution management and control, where appropriate, forms part of the environmental impact assessment report and environmental management plan. Applicable laws regarding noise management and control refers to the national noise control regulations issued in terms of the Environment Conservation Act 73 of 1989. The inhibition of sites by contractors may generally increase the ambient noise levels in the area. Additional noise may be expected from the increased heavy duty traffic as well as construction equipment.	Local Authority	
National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003)	The purpose of this Act is to provide for the protection, conservation and management of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes. The diversity of ecological processes was determined throughout the study. This Act will be read together with relevant policies and management plans. No protected areas were noted in proximity to the proposed site.	National	2003

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?

YES	NO
✔	

If YES, what estimated quantity will be produced per month?

Unknown m^3

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

The construction of the substation and power line will generate general construction waste which will be removed by a waste contractor and be disposed of at a registered waste disposal site. Any solid waste produced on site will be collected in suitable containers and removed from site by means of waste disposal trucks. Further detail on solid waste management is provided in the Environmental Management Programme (EMPr). Solid waste could include the following:

- conductor off-cuts, steel;
- concrete rubble from structure foundations
- any vegetation cleared; and
- general waste produced by construction workers.

All waste will be taken to registered waste sites. Should any hazardous waste be produced, it shall be disposed of appropriately at a registered waste disposal site. Records of the type and quantity of waste disposed of at the waste disposal site will be kept on site.

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

Solid waste will be managed and disposed of in accordance with the attached Environmental Management Programme and may include:

- General waste, consisting of non-hazardous substances and substances that cannot be recycled. Examples include (but not limited to rubble, that cannot be reused, and food waste. This will be disposed and collected in a waste skip and disposed of at a registered site.
- Re-usable and excess material, which can be used at construction sites will be carefully packaged and delivered to other sites for reuse.
- Hazardous waste which will be disposed of accordingly at a registered hazardous waste disposal site.
- Refuse will at all times be disposed of at a registered site, which is also approved by the local authority. Refuse will not be burned or buried on or near the site.
- Records of the type and quantity of waste disposed of at the waste disposal site will be kept on site.

Will the activity produce solid waste during its operational phase?

YES	NO
✔	

If YES, what estimated quantity will be produced per month?

Unknown m^3

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

Waste produced during the operational phase will be primarily from maintenance and domestic waste from employees (site security guards and other). Waste produced will be managed according to the requirements of the EMPr, which will include proper disposal of waste at a registered site as well as recycling were feasible. A record of waste generated and disposed of will be kept and managed accordingly to encourage waste reduction.

If the solid waste will be disposed of into a municipal waste stream, indicate which registered landfill site will be used.

A registered landfill site will be used and permission will be sought from the municipality before commencement of the construction activities. It is assumed that the closest registered waste disposal site will be used.

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

Waste that does not fit into the municipal waste stream will be disposed of at a registered hazardous waste disposal site while recyclable and reusable will be treated as such.

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, then 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 NEM:WA?	YES	NO ✔

If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

Is the activity that is being applied for a solid waste handling or treatment facility?	YES	NO ✔

If YES, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?	YES	NO ✔
If YES, what estimated quantity will be produced per month?		m^3
Will the activity produce any effluent that will be treated and/or disposed of on site?	YES	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.

Will the activity produce effluent that will be treated and/or disposed of at another facility?	YES	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:

None identified.

c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other that exhaust emissions and dust associated with construction phase activities?	NO ✔
If YES, is it controlled by any legislation of any sphere of government?	YES / NO ✔

If YES, the applicant must 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:

Low levels of dust emissions may also be expected from excavations during the construction phase; this will be site specific and low in significance, provided that mitigation measures are in place.
Appropriate dust control measures such as dampening of surfaces will be put in place as may be required. Further detail on dust management is provided in the Environmental Management Programme.

d) Waste permit

Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM:WA?	YES / NO ✔

If YES, please submit evidence that an application for a waste permit has been submitted to the competent authority

e) Generation of noise

Will the activity generate noise?	YES ✔ / NO
If YES, is it controlled by any legislation of any sphere of government?	YES / NO ✔

Describe the noise in terms of type and level:

Noise pollution will occur as a result of construction activities and movement of vehicles on site; the impact will be highly localised and of a temporary nature.

The potential noise impact will be mitigated by restricting construction activities to normal working hours, which will result in an impact of low significance.

Further detail on noise management is provided in the Environmental Management Programme.

13. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es):

Municipal	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:

	litres
YES	NO ✔

Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?

If YES, please provide proof that the application has been submitted to the Department of Water Affairs.

14. ENERGY EFFICIENCY

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

TFR will be replacing the 9E Electrical Locomotives and Diesel Locomotives with the new energy efficient 15E Electrical Locomotives.

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

None

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

1. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section B and indicate the area, which is covered by each copy No. on the Site Plan.

Section B Copy No. (e.g. A): [ ]

2. Paragraphs 1 - 6 below must be completed for each alternative.

3. Has a specialist been consulted to assist with the completion of this section?

YES	NO
✔	

If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed and attach it in Appendix I. All specialist reports must be contained in Appendix D.

Property description/physical address:

Province	Northern Cape	
District Municipality	ZF Mgcawu District Municipality	
Local Municipality	!Kheis Local Municipality	
Ward Number(s)	Ward 3	
Farm name and number	Farm Bokpoort 390	
Portion number	RE and Portion 4	
SG Code	C02800000000039000000 and C02800000000039000004	

Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application including the same information as indicated above.

Current land-use zoning as per local municipality IDP/records:

Agricultural

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to, to this application.

Is a change of land-use or a consent use application required?

YES	NO
	✔

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

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

Alternative S2 (if any):

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

Alternative S3 (if any):

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

2. LOCATION IN LANDSCAPE

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

2.1 Ridgeline		2.4 Closed valley		2.7 Undulating plain / low hills	
2.2 Plateau		2.5 Open valley		2.8 Dune	
2.3 Side slope of hill/mountain		2.6 Plain	✔	2.9 Seafront	
2.10 At sea					

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following?

	Alternative S1:		**Alternative S2 (if any):**		**Alternative S3 (if any):**	
Shallow water table (less than 1.5m deep)	YES	NO ✔	YES	NO	YES	NO
Dolomite, sinkhole or doline areas	YES ✔	NO	YES	NO	YES	NO
Seasonally wet soils (often close to water bodies)	YES	NO ✔	YES	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	NO ✔	YES	NO	YES	NO
Dispersive soils (soils that dissolve in water)	YES	NO ✔	YES	NO	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	NO ✔	YES	NO	YES	NO
Any other unstable soil or geological feature	YES	NO ✔	YES	NO	YES	NO
An area sensitive to erosion	YES	NO	YES	NO	YES	NO

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted.

4. GROUNDCOVER

Indicate the types of groundcover present on the site. The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Natural veld - good condition[E]	Natural veld with scattered aliens[E]	Natural veld with heavy alien infestation[E] ✔	Veld dominated by alien species[E]	Gardens
Sport field	Cultivated land	Paved surface	Building or other structure✔	Bare soil✔

If any of the boxes marked with an "[E] "is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn't have the necessary expertise.

Vegetation Studies was undertaken by Simon Todd and the report is attached as Appendix D-1

5. SURFACE WATER

Indicate the surface water present on and or adjacent to the site and alternative sites?

Perennial River	YES	NO✔	UNSURE
Non-Perennial River	YES	NO✔	UNSURE
Permanent Wetland	YES	NO✔	UNSURE
Seasonal Wetland	YES	NO✔	UNSURE
Artificial Wetland	YES	NO✔	UNSURE
Estuarine / Lagoonal wetland	YES	NO✔	UNSURE

If any of the boxes marked YES or UNSURE is ticked, please provide a description of the relevant watercourse.

[redacted]

6. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

Natural area	Dam or reservoir	Polo fields
Low density residential	Hospital/medical centre	Filling station [H]
Medium density residential	School	Landfill or waste treatment site
High density residential	Tertiary education facility	Plantation
Informal residential[A]	Church	Agriculture ✔ (Stock Farming)
Retail commercial & warehousing	Old age home	River, stream or wetland
Light industrial	Sewage treatment plant[A]	Nature conservation area
Medium industrial [AN]	Train station or shunting yard [N]	Mountain, koppie or ridge
Heavy industrial [AN]	Railway line [N] ✔	Museum
Power station	Major road (4 lanes or more) [N]	Historical building
Office/consulting room	Airport [N]	Protected Area
Military or police base/station/compound	Harbour	Graveyard
Spoil heap or slimes dam[A]	Sport facilities	Archaeological site
Quarry, sand or borrow pit	Golf course	Other land uses (describe) ✔ IPP (Solar Plant)

If any of the boxes marked with an "[N] "are ticked, how this impact will / be impacted upon by the proposed activity? Specify and explain:

The proposed upgrade is meant for the enhancement of the railway line operation.

If any of the boxes marked with an "[An]" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

If any of the boxes marked with an "[H]" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

Does the proposed site (including any alternative sites) fall within any of the following:

Critical Biodiversity Area (as per provincial conservation plan)	YES	NO ✔
Core area of a protected area?	YES	NO ✔
Buffer area of a protected area?	YES	NO ✔
Planned expansion area of an existing protected area?	YES	NO ✔
Existing offset area associated with a previous Environmental Authorisation?	YES	NO ✔
Buffer area of the SKA?	YES	NO ✔

If the answer to any of these questions was YES, a map indicating the affected area must be included in Appendix A.

7. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or paleontological sites, on or close (within 20m) to the site? If YES, explain:	YES	NO✔
	Uncertain	

If uncertain, conduct a specialist investigation by a recognised specialist in the field (archaeology or palaeontology) to establish whether there is such a feature(s) present on or close to the site. Briefly explain the findings of the specialist:

A Phase 1 heritage specialist study was undertaken by Munyadziwa Magoma of Vhubvo Archeo-Heritage Consultants and the report is attached as Appendix D3.

The survey of the proposed area covered the area proposed for 0.5km power line and 50kV Transnet Garona Traction Feeder Substation. By its nature, the power-line is limited to cause impact on pole positions, while the traction will significantly impact the entire proposed section. The traction and power line are proposed on a land which is disturbed by activities related to the existing substation (Garona) and Transnet railway line nearby. In addition, this land was used for agricultural purposes in the past. As a result, no significant archaeological materials were identified on the footprint of the proposed power-line and traction.

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

If YES, please provide proof that this permit application has been submitted to SAHRA or the relevant provincial authority.

8. SOCIO-ECONOMIC CHARACTER

The source of information provided hereunder is Census 2011 Municipal Fact Sheet, published by Statistics South Africa.

a) Local Municipality

Please provide details on the socio-economic character of the local municipality in which the proposed site(s) are situated.

Level of unemployment:

The !Kheis Local Municipality has an unemployment rate of 28%. The youth (15-34) unemployment rate is 34.3%.

Economic profile of local municipality:

The !Kheis Local Municipality has a population of 16 637 and a dependency ration of 65.9%. The population growth rate is 0.06% per annum which is relatively low.

The Municipality's household dynamics are as follows:

- Households - 4 146
- Average Household Size -3.9
- Female Headed Households - 33.6%
- Formal Dwellings - 66.3%
- Housing Owned - 67.1%

Level of education:

The level of education within the Municipality is very low as depicted in the stats below;

- No Schooling -13.5%
- Higher Education - 4.5%
- Matric - 14%

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	Undetermined. Cost estimations have not been calculated as they strongly depend on current construction costs and the site selected for use.	
What is the expected yearly income that will be generated by or as a result of the activity?	It is not expected that the proposed development will earn any income – it is primarily to provide reliable bulk services to customer (Transnet).	
Will the activity contribute to service infrastructure?	YES ✔	NO
Is the activity a public amenity?	YES	NO ✔
How many new employment opportunities will be created in the development phase of the activity?	During the development phase of the proposed project it is not envisaged that any direct employment will be created. Contractors will be appointed by the client, who will bring in their own working teams to complete the project.	

What is the expected value of the employment opportunities during the development phase?	This cannot be quantified as it is not foreseen that any additional employment will Be generated by the project.
What percentage of this will accrue to previously disadvantaged individuals?	None - it is not foreseen that any additional employment opportunities will be created by the project.
How many permanent new employment opportunities will be created during the operational phase of the activity?	None – due to the nature of the project no permanent employees will be required on site to manage the operational phase.
What is the expected current value of the employment opportunities during the first 10 years?	No direct employment opportunities will be generated by the project, in any of the phases. However it is estimated that numerous indirect employment opportunities might be generated as a result of the additional bulk infrastructure which the project proposes to install in the area.
What percentage of this will accrue to previously disadvantaged individuals?	None –it is not foreseen that any additional employment opportunities will be generated by the project.

9. BIODIVERSITY

Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult http://bgis.sanbi.org or BGIShelp@sanbi.org. Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (021) 799 8698. This information may be updated from time to time and it is the applicant/ EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as Appendix D to this report.

a) Indicate the applicable biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category)

Systematic Biodiversity Planning Category				**If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan**
Critical Biodiversity Area (CBA)	Ecological Support Area (ESA)	Other Natural Area (ONA)	No Natural Area Remaining (NNR) ✔	The proposed study area is highly disturbed due to on-going construction activities for both renewable and grid infrastructure

b) Indicate and describe the habitat condition on site

Habitat Condition	**Percentage of habitat condition class (adding up to 100%)**	**Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc).**
Natural	0%	
Near Natural (includes areas with low to moderate level of alien invasive plants)	0%	
Degraded (includes areas heavily invaded by alien plants)	60%	The site is highly degraded.
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	40 %	The site has been transformed as a result of historic farming, railway line, substation, new IPP project etc.

c) Complete the table to indicate:

(i) the type of vegetation, including its ecosystem status, present on the site; and

(ii) whether an aquatic ecosystem is present on site.

Terrestrial Ecosystems		**Aquatic Ecosystems**		
Ecosystem threat status as per the National Environmental Management:	Critical	Wetland (including rivers, depressions, channelled and unchanneled wetlands, flats, seeps pans, and artificial wetlands)	Estuary	Coastline
	Endangered			
	Vulnerable			
	Least			

Terrestrial Ecosystems		Aquatic Ecosystems						
Biodiversity Act (Act No. 10 of 2004)	Threatened ✔	YES	NO ✔	UNSURE	YES	NO ✔	YES	NO ✔

d) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)

The vegetation of the affected area is previously disturbed as a result of vegetation clearing, material dumping and construction activity. As a result, the vegetation is patchy and consists of reasonably intact areas alternating with previously cleared or currently disturbed areas. Dominant species include grasses such as *Stipagrostis uniplumis*, *Eragrostis echinochloidea* and *Stipagrostis obtusa*, shrubs such as *Zygophyllum lichtensteinianum*, *Hermannia tomentosa*, *Monechma genistifolium subsp. genistifolium*, *Aptosimum marlothii*, *Plinthus sericeus*, tall shrubs such as *Lycium cinereum*, *Lycium bosciifolium*, *Phaeoptilum spinosum* and trees such as *Acacia mellifera* subsp. *detinens*, *Ziziphus mucronata* and the alien *Schinus molle*. No species of conservation concern were observed in the footprint. An individual of *Boscia foetida* which is a protected species in the Northern Cape was observed in the road reserve, but not within the current development footprint. Alien species present at the site include the individual of *Schinus molle*, as well as *Atriplex lindleyi subsp. inflata* and *Salsola kali*.

Given the low sensitivity of the site and the footprint of the development within the railway reserve, it is highly unlikely that the development of the site would result in any significant impacts on biodiversity that warrant assessment. Therefore, it is concluded that the current study is sufficient and that a full assessment of the ecological impacts of the development is not warranted as there are no specific ecological impacts that would be triggered by the development.

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	Volkblad	
Date published	25th August 2014	
Site notice position	**Latitude**	**Longitude**
	21°59.703'E	28°44.419'S
	21°59.697E	28°44.432'S
Date placed	02 September 2014	

Include proof of the placement of the relevant advertisements and notices in Appendix E1.

Proof of placement of notice is attached as Appendix E1.

2. DETERMINATION OF APPROPRIATE MEASURES

Provide details of the measures taken to include all potential I&APs as required by Regulation 54(2) (e) and 54(7) of GN R.543.

Key stakeholders (other than organs of state) identified in terms of Regulation 54(2) (b) of GN R.543:

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)
ACWA Power Sola Africa Dries Niemandt (Site Manager)	Landowner	aniemandt@acwapower.com
Riets Jan Daniel Karnspek	Landowner	P.O Box 27, Hoopstad, 9479
Suzanne Erasmus	Wildlife and Environment Society of South Africa	wessanc@yahoo.com
Transnet Freight Rail	Johan Mouton	15 Swartberg Road, Stellenburg, Durbanville, 7550
South African National Road Agency	Rene DeKock	Dekockr@nra.co.za

Include proof that the key stakeholder received written notification of the proposed activities as Appendix E2. This proof may include any of the following:

- e-mail delivery reports;
- registered mail receipts;
- courier waybills;
- signed acknowledgements of receipt; and/or
- or any other proof as agreed upon by the competent authority.

Proof of written notification to key stakeholders attached as Appendix E2.

3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	Summary of response from EAP
None to date.	

4. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments received from I&APs and respond to each comment before the Draft BAR is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to the Final BAR as Appendix E3.

Comments and Response have been attached as Appendix E3.

5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address
Northern Cape Department of Environment and Nature Conservation	Ms. L Toos-Bernado	0538077430	0538313530		P/Bag x 6102, Kimberley, 8300
!Kheis Local Municipality		054 833 9500	054 833 9509		P/Bag x921, Grobleshoop, 8850
Department of Roads and Public Works	The MEC	053 839 2100	053 839 2190/1		P.O Box 3132, Square hill Park, Kimberley
Northern Cape Department of Agriculture Forestry and Fisheries	Ms. Thoko Buthelezi			thokob@daff@gov.za	
Northern Cape Dept. of Agriculture and Land Affairs		053 838 9106	053 832 4328		Private Bag X5018, Kimberley
Northern Cape Dept. of Water Affairs	Mr. Abe Abrahams	(054) 338 5800	(054) 334 0205	warmsorange@ dwa.gov.za	Private Bag X5912 Upington 8800
Department of	The MEC	012 336	012 336 8850		Private Bag

Water and Sanitation		8733			X313, Pretoria,0001
South African Heritage Resources Agency	Mr Phillip Hine	0214624502	021 4624509	phine@sahra.org.za	P.O Box 4637 Cape Town 8000

Include proof that the Authorities and Organs of State received written notification of the proposed activities as appendix E4.

Proof has been included as Appendix E4.

In the case of renewable energy projects, Eskom and the SKA Project Office must be included in the list of Organs of State.

6. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for any activities (linear or other) where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that sub-regulation to the extent and in the manner as may be agreed to by the competent authority.

Proof of any such agreement must be provided, where applicable. Application for any deviation from the regulations relating to the public participation process must be submitted prior to the commencement of the public participation process.

A list of registered I&APs must be included as appendix E5.

List of Registered I&AP attached as Appendix E5.

Copies of any correspondence and minutes of any meetings held must be included in Appendix E6.

No meetings have been held to date; however, copies of correspondence have been attached as Appendix E6.

SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2010, 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. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

Provide a summary and anticipated significance of the potential direct, indirect and cumulative impacts that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed. This impact assessment must be applied to all the identified alternatives to the activities identified in Section A (2) of this report.

Activity	Impact summary	Significance	Proposed mitigation
Alternative 1 (preferred alternative)			
	Direct impacts: **Soils and erosion** The loss of topsoil in South Africa is a national concern and thus erosion control should be taken seriously. Ineffective storm water management systems can result in soil erosion. Where soils are highly erodible, adequate measures must be implemented to prevent undue soil erosion. Extensive soil erosion is not expected during the construction of the proposed project, however, it is anticipated proposed project that occurrence of such might occur during wet seasons especially on the stockpiles (Topsoil and Subsoil). The potential impact on soils will be of low significance.	Low	• Stockpiles should not be higher than 1.5 meters. • Foundation excavations for each structure must be inspected by a competent person during construction. • Excavation must not be left open for longer than three weeks. • Proper storm water management measures must be put in place.
	Flora and Fauna The development of the development of the site would not generate any impacts of broader significance and as a site is	Low	• The proposed development area should be demarcated and cordoned–off using

Activity	Impact summary	Significance	Proposed mitigation
	already disturbed, the loss of the disturbed natural vegetation from the site is not deemed to be significant. No species of conservation concern were observed in the development footprint and it is highly unlikely that any such species would be affected by the development. Similarly, the site is not of importance for fauna as a result of regular human activity along the railway servitude as well as the disturbed nature of the site. As a result, it is highly unlikely that any fauna would be significantly impacted by the development and as a result, no faunal impacts are assessed.		construction tape, fencing or similar structure. • Cement mixing, cleaning and similar 'dirty' activities should take place within a designated area with appropriate runoff control. • All contaminated soil, litter and building rubble should be cleared from the site at the end of construction. • If the substation must be lit at night for security reasons, then the lighting should be downward-directed and utilise low-UV emitting bulbs such as most LEDs which attract less insects. • Any fauna disturbed or encountered during construction activities should be removed to safety by the ECO or other suitably qualified persons.
	Employment Creation The planning and design of the proposed development requires input from various individuals, resulting in the employment opportunities for such persons. This additional employment would include both direct (e.g. Environmental Consultants, Engineers, Project Managers, Planners, etc.) and indirect (e.g. reviewing and commenting authorities such as the local authority planning authorities and the environmental authorities). The extent and magnitude of this impact is relatively low compared to the other economic impacts, and is typically restricted to a limited number of professionals. All the identified alternatives are likely to result in the same level of significance for this impact. The No-go Alternative would differ in	Medium to High	• Use local labour as far as possible for less or unskilled work during construction phase. • Create opportunities for the employment of women. • Where possible use labour-intensive methods of construction. • Go beyond the minimum wage rate and invest in local staff. • Where possible provide training to ensure skill transfers.

Activity	Impact summary	Significance	Proposed mitigation
	that this impact would not occur.		
	Traffic During construction, increase in traffic is likely to result from delivery of construction materials to and from the construction works. The impact of increased traffic can be considered local in extent, short term in duration with the overall impact been negative with low significance. However with implementation of proper mitigation measures, it can be reduced to low significance.	Low	• The delivery of construction material and equipment should be limited to hours outside peak traffic times (including weekends) prevailing on the surrounding roads. • Delivery vehicles must comply with all traffic laws and bylaws. • A speed limit of 40 must be adhered to avoid dust.
	Avifauna The receiving environment is very disturbed and the site is adjacent to a substation. The short distance of the proposed line and the background existing habitat destruction mean this impact will be negligible on avifauna in the area. It is unlikely that birds will nest on the short additional line in the area. In fact considering the extremely short distance the line will traverse there will be hardly any additional towers available for the birds to nest on. This impact is seen as negligible for this project.	Low	• The steel monopole design should be used for the new power line towers. This will mitigate for the impact of electrocutions as well as the impact of bird induced faulting. • A general construction environmental management plan (EMP) should be followed to mitigate for the general habitat destruction and disturbance when building the new line.
	Impact on cultural and heritage resources No heritage resources were recorded on the site. The potential impact of the proposed project on cultural heritage sites is considered to be low and therefore insignificant.	Low/ Negligible	• Should the heritage or archaeological artefacts be discovered during construction or operational phase, all works must be stopped at the affected area and SAHRA must be

Activity	Impact summary	Significance	Proposed mitigation
			contacted.
	Surface and Ground Water The general absence of water bodies outside of an unusual rainy period. The proposed study area does not have any water bodies. It can therefore be deduced that the impact on surface water will be low.	Low	Care must be taken not to spill fuels or oil during service or re-fuelling of construction equipment. During refuelling drip trays must be placed under the machinery or vehicle to prevent contamination of soil in case of spillages. • In the event of a spillage of a hazardous substance the requirements of the EMP must be implemented.
	Socio-Economic • The proposed project will result in a positive socio-economic impact as the proposed upgrade will ensure that the proposed upgrade of diesel locomotives is undertaken. This will have positives economic spinoffs during the operational phase.	High	No mitigation identified. It is recommended that the project progresses provided all mitigation is in place.
	Indirect impacts: None identified		
	Cumulative impacts: None identified		
Alternative 2			
	Direct impacts:		

Activity	Impact summary	Significance	Proposed mitigation
	Indirect impacts:		
	Cumulative impacts:		
	Direct impacts:		
	Indirect impacts:		
	Cumulative impacts:		
Alternative 3			
	Direct impacts:		
	Indirect impacts:		
	Cumulative impacts:		
	Direct impacts:		
	Indirect impacts:		
	Cumulative impacts:		
No-go option			
	Direct impacts: **Socioeconomic** Should the proposed project not proceed Transnet will continue running the old locomotives which are not cost effective and energy efficient. Given the already existing energy crisis this will be a negative impact of high significance.	High	Diesel Locomotives must be upgraded as proposed to enhance the economy of the country.
	Indirect impacts: None identified.		
	Cumulative impacts: None identified.		

A complete impact assessment in terms of Regulation 22(2) (i) of GN R.543 must be included as Appendix F.

A complete Impact Assessment has been attached as Appendix F.

2. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity 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.

Alternative A (preferred alternative)

Certain factors have been taken into account when assessing the impact of the proposed activity on the environment.

FACTORS	COMMENTS
Environmental impact on the ecosystems of the locality.	The proposed activity is not expected to have any long-term impacts on the ecosystems of the locality. Mitigation measures are proposed to protect surrounding Environment.
Possible reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality.	No reduction of the environmental quality of the locality is expected in the longer term.
Any possible effect upon a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations	No obvious heritage sites were noted in close proximity to the substation site and power line.
Any impact on the habitat of protected fauna (within the meaning of the National Parks and Wildlife Act 1974);	The proposed site is not expected to have an impact on any habitat of protected fauna as it is highly disturbed.
Any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air.	No species of animal or plant is expected to be endangered as a result of the proposed activities.
Any long-term effects on the environment	No long term effect on the environment is expected.
Possible degradation of the quality of the environment.	Mitigation measures would be employed to ensure no significant degradation of the environment.
Any pollution of the environment	The proposed activity is not expected to result in long term pollution of the environment. Mitigation measures

	are proposed to ensure pollution is restricted to short term localised effects.
Any environmental problems associated with the disposal of waste	No long term environmental problems associated with the disposal of waste material are expected.

PLANNING AND DEVELOPMENT PHASE

Impacts associated with the planning and development phase of the proposed activity include the creation of job opportunities for skilled engineers and planning professions. This positive impact will be definite and short term in duration. No significant negative impact has been associated with this phase and the proposed activity.

CONSTRUCTION PHASE

The positive impacts identified for this phase include job creation and a positive economic outlook for the municipality and the country at large, these impacts will be enhanced in order to maximise the benefits. Impacts associated with the construction phase of the proposed activity can be regarded as being of low significance. These includes impacts of low significance on the following:

- Vegetation;
- faunal and avifaunal impacts of low significance; and
- Visual, noise, air pollution and traffic.

With corrective measures in place none of the identified negative impacts are considered to be a fatal flaw.

OPERATIONAL PHASE

No significant negative impact can be associated with the operational phase of the proposed activity. However, possible impact on avifauna due to electrocution and collision as a result of the proposed powerline has been identified. Positive impact includes enhanced and improved operations for Transnet the end user and a positive benefit for the country at large in terms of GDP.

DECOMMISIONING PHASE

No significant impacts have been identified for the decommissioning phase of the proposed activity since decommissioning will not take place for the proposed activity in the foreseeable future. However, if decommissioning were to take place it will have a negative impact due to job losses, soil erosion and waste generation.

Alternative B

The recommendations are the same as Alternative 1.

Alternative C

No-go alternative (compulsory)

The no-go alternative was assessed not to be an option given the economic and social benefits of the proposed project which far outweigh other identified impacts. If the no-go alternative is considered none of the identified impacts will be realised, including the following:

- The diesel locomotives will continue operating as is, which implies that the opportunity to improve towards more energy efficient locomotives will be missed. Given the current energy crisis the No-go should not be considered as it prevents Transnet form becoming energy efficient in their operation as proposed.

- Further the Sishen Saldanha Iron Ore line form the backbone of the country's mining industry, therefore any enhancement and improvement benefits the country at large, therefore if the No-go is considered the benefits will not be realised.

SECTION E. 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 ✔	NO

If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process 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.

It is recommended that the proposed project be authorised i.e. the proposed construction of the Transnet Garona Traction Feeder substation.d. The recommendation is based on the following:

- The identified environmental impacts are of low significance given the disturbed nature of the proposed project site;
- The identified positive impacts far outweigh the negative impacts; and
- The proposed upgrade of locomotives will yield significance socioeconomic benefits for the region and country at large.

From a technical perspective the following is recommended:

- Use of SF6 gas insulated circuit breakers instead of oil insulated circuit breakers; oil insulated auxiliary, voltage and current transformers.

Environmental Management Programme (EMPr) has been prepared by the consultant and it will serve as the key reference of the EAPs recommendations jointly with Eskom's policies that are already in place. The EMPr has included measures proposed to mitigate any adverse impacts of the activities and the monitoring. Some of the key recommendation include:

- Areas outside of the footprint and reasonable construction access to be marked as no-go areas.
- Implement erosion control measures where applicable.
- Whilst the proposed project specifically is not anticipated to add significantly to the current ambient noise levels it is recommended that noise be reduced at all times.
- It is recommended that should an archaeological artefact be found during excavations, an archaeologist be called for further investigation.
- Notwithstanding the absence of wet areas, ensure that the site is not within the 1:100 year flood line and further ensure strict compliance with the requirements of the National Water Act and associated legislation.
- The attached construction EMPr must be implemented and adhered to in order to minimise all potential negative impacts and to enhance positive impacts where applicable.

• Rehabilitate in accordance with the EMPr after construction.

Is an EMPr attached?	YES ✔	NO

The EMPr must be attached as Appendix G.

The details of the EAP who compiled the BAR and the expertise of the EAP to perform the Basic Assessment process must be included as Appendix H.

If any specialist reports were used during the compilation of this BAR, please attach the declaration of interest for each specialist in Appendix I.

Any other information relevant to this application and not previously included must be attached in Appendix J.

MUNYADZIWA RIKHOTSO

_____

NAME OF EAP

_____ _____

SIGNATURE OF EAP DATE

SECTION F: APPENDIXES

The following appendixes must be attached:

Appendix A: Maps

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports (including terms of reference)
- D1 - Flora and Fauna
- D2 - Avifauna
- D3 - Heritage

Appendix E: Public Participation

Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

Appendix J: Additional Information