

13 October 2020

Dear Interested and Affected Party,

DEVELOPMENT OF A THERMAL POWER DUAL FUEL FACILITY TO FORM PART OF A HYBRID GENERATION FACILITY TOGETHER WITH THE AUTHORISED HYPERION 1 & 2 SOLAR PV ENERGY FACILITIES, NEAR KATHU, NORTHERN CAPE PROVINCE

NOTICE OF ENVIRONMENTAL IMPACT ASSESSMENT AND PUBLIC PARTICIPATION PROCESSES

Hyperion Solar Development (Pty) Ltd is proposing the development of a hybrid generation facility consisting of a dispatchable, dual fuel (liquid or gas) thermal generation plant that will work in combination with the authorised Hyperion 1 & 2 Solar PV Energy Facilities.

The hybrid thermal power facility, access road, and associated grid connection infrastructure are located approximately 15km north of Kathu within in the Gamagara Local Municipality which falls within jurisdiction of the John Taolo Gaetsewe District Municipality, Northern Cape Province. The power generated by the Hyperion hybrid generation facility will feed into the national electricity grid via an overhead 132kV power line to the existing Eskom Kalbas substation located to the south-west of the hybrid generation facility site. The thermal generation plant will include the following infrastructure:

- » Gas turbines or Reciprocating Engines
- » Access road
- » Truck entrance and parking facility
- » Regasification plant and fuel preparation plant
- » Dry cooling system for operating oils/chemicals
- » Fuel off-loading facility
- » Fuel storage facility
- » Water demineralisation plant
- » Substation, cabling, O&M building, fencing, warehouses and workshops

It is the developer's intention to bid the Hyperion hybrid facility (i.e. PV and thermal dual fuel facility together with the associated power line) into the procurement process initiated by the Independent Power Producer Office (IPP Office) for the procurement of up to 2000MW of dispatchable generation

capacity from a range of technologies. This allocation is in accordance with the new generation capacity required as specified in the Integrated Resource Plan 2019 and accompanying ministerial determination from the Minister for the Department of Mineral Resources and Energy (DMRE) to which the National Energy Regulator of South Africa (NERSA) has concurred. The IPP Office has initiated procurement for the 2000MW of capacity under the Risk Mitigation Independent Power Producer Procurement Programme (RMIPPPP). The RMIPPPP has been designed as a Strategic Integrated Project (SIP).

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

As per the EIA Regulations published in terms of Section 24(5) of the National Environmental Management Act (NEMA, Act No 107 of 1998), the thermal dual fuel power facility will require Environmental Authorisation (EA) from the National Department of Environment, Forestry and Fisheries (DEFF) (in consultation with Northern Cape Environment Affairs and Nature Conservation (NC EANC)). In terms of sections 24 and 24D of the National Environmental Management Act (No 107 of 1998), as read with the EIA Regulations, 2014, as amended (GNR 324 - 327), a Scoping and EIA process is required to support the application for authorisation. The application for authorisation is required to be supported by comprehensive, independent environmental studies undertaken in accordance with the EIA Regulations, 2014, as amended, and relevant specialist protocols.

The applicant has appointed Savannah Environmental, as the independent environmental consultant, to undertake the EIA and public participation processes for the project to identify and assess all potential environmental impacts associated with the project and recommend appropriate mitigation measures. Desktop site-specific studies and assessments will be undertaken during the scoping phase process in order to delineate areas of potential sensitivity within the study area, which will then be fully assessed during the impact phase of the EIA.

As part of the environmental studies, Interested and Affected Parties (I&APs) will be actively involved through the public involvement process being undertaken by Savannah Environmental. You and/or the organisation, which you represent, has been identified as an I&AP for the proposed projects as described above. A Background Information Document (BID), which provides further information on the EIA process as well as the nature and extent of the proposed thermal facility, is attached to this letter and is also available for download from the Savannah Environmental Website <https://www.savannahsa.com/public-documents/energy-generation/hyperion-thermal-power-storage/>.

PUBLIC INVOLVEMENT PROCESS

The public participation (PP) process will be undertaken in accordance with the requirements of Regulations 39 to 44 of the Environmental Impact Assessment (EIA) Regulations, 2014, as amended, (GNR 326). The aim of the public participation process is primarily to ensure that:

- » information containing all relevant facts in respect of the proposed project is made available to potential stakeholders and I&APs
- » participation by I&APs is facilitated in such a manner that all potential stakeholders and I&APs are provided with a reasonable opportunity to comment on the proposed project; and
- » comments received from potential stakeholders and I&APs are recorded and incorporated into the EIA process.

The restrictions enforced in terms of Government Gazette 43096 which placed the country in a national state of disaster limiting the movement and gathering of people to curb the spread of the COVID-19 virus has placed some limitations on how public consultation can be conducted as part of a BA process. The consultation process for these projects has been designed considering these limitations, and the implementation is in line with our public participation plan (PP Plan), as approved by the DEA. Our PP Plan is in compliance with the Department of Environment, Forestry and Fisheries (DEFF) Directions issued on the 5th of June 2020. One of our approved consultation methods is for you to visit our online stakeholder engagement platform, register your interest in the project/s, and view project documentation on our public participation platform on: <https://www.savannahsa.com/public-documents/energy-generation/hyperion-thermal-power-storage/>.

Alternative means of undertaking consultation have been designed to ensure that I&APs are afforded sufficient opportunity to raise comments on the project, predominately through an interactive web-based platform readily available and accessible to any person with interest in the project, enabling the public participation process to be undertaken in line with Regulations 41 to 44 of the EIA Regulations, 2014, as amended. This online stakeholder engagement platform allows the EAP to visually present details regarding the project and our consultation documentation, including project maps and plans, presentations and posters regarding the project, and reports available for review. The use of online tools enables stakeholders and I&APs to explore the project-specific content in their own time, and allows participation in the consultation process in a meaningful way. The online platform allows for instant feedback and comments to be submitted, in so doing saving time for the stakeholder and also giving the assurance that their comments have been submitted for inclusion in the project reporting.

The benefits of the online stakeholder engagement platform include:

- » Ability to create a dedicated project-specific online platform to enable easy access to project-related information.
- » Ability to reach a wider audience, allowing more widespread consultation for major infrastructure projects.
- » Allowing stakeholders and I&APs the opportunity to engage on a project without leaving their office or home.
- » Enabling stakeholders and I&APs to register their interest in a project (for inclusion on the project database), and automatically gaining access to comprehensive project documentation.
- » Enabling the EAP to maintain a complete database of I&APs through maintaining a record of persons accessing the online stakeholder consultation platform.
- » Enabling the EAP and stakeholders/I&APs to meet virtually.
- » Provides a resilient solution to a public consultation process.


Where I&APs do not have the applicable facilities or access to internet, provision has been made to include these I&APs in the consultation process by consulting with the Ward Councillor, the ward committee members, community representatives and local community forum members.

Should you have an interest in the project, please register yourself as an I&AP on our on line stakeholder engagement platform (link provided above) or by completing and returning the attached stakeholder registration/comment form. By registering on the project database, you will

be kept informed of the EIA process being undertaken for the project and will be provided with an opportunity to provide comment and input.

Please do not hesitate to contact us should you require additional information and/or clarification regarding the project. Our team welcomes your participation and look forward to your involvement throughout this process.

Kind regards

A handwritten signature in black ink, appearing to read "Nicolene".

Nicolene Venter

Public Participation and Social Consultant

Email: publicprocess@savannahsa.com

Attached: Background Information Document
Registration and Comment Form

OCTOBER
2020



ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

DEVELOPMENT OF A THERMAL POWER DUAL FUEL FACILITY TO FORM PART OF A HYBRID
GENERATION FACILITY TOGETHER WITH THE AUTHORISED HYPERION 1 & 2 SOLAR PV
ENERGY FACILITIES, NEAR KATHU

NORTHERN CAPE PROVINCE

Hyperion Solar Development (Pty) Ltd is proposing the development of a hybrid generation facility consisting of a dispatchable, dual fuel (liquid or gas) thermal generation plant that will work in combination with the authorised Hyperion 1 & 2 Solar PV Energy Facilities.

The hybrid thermal power facility, access road, and associated grid connection infrastructure are located approximately 22km north of Kathu within in the Gamagara Local Municipality which falls within jurisdiction of the John Taolo Gaetsewe District Municipality, Northern Cape Province. The power generated by the Hyperion hybrid generation facility will feed into the national electricity grid via an overhead 132kV power line to the existing Eskom Kalbas substation located to the south-west of the hybrid generation facility site.

It is the developer's intention to bid the Hyperion hybrid facility (i.e. PV and thermal dual fuel facility together with the associated power line) into the procurement process initiated by the Independent Power Producer Office (IPP Office) for the procurement of up to 2000MW of dispatchable generation capacity from a range of technologies. This allocation is in accordance with the new generation capacity required as specified in the Integrated Resource Plan 2019 and accompanying ministerial determination from the Minister for the Department of Mineral Resources and Energy (DMRE) to which the National Energy Regulator of South Africa (NERSA) has concurred. The IPP Office has initiated procurement for the 2000MW of capacity under the Risk Mitigation Independent Power Producer Procurement Programme (RMIPPPP). The RMIPPPP has been designed as a Strategic Integrated Project (SIP).

Aim of this background information document

This document aims to provide you, as an interested and/or affected party (I&AP), with:

- » an overview of the proposed thermal power dual fuel facility, which forms part of the Hyperion hybrid generation facility.
- » an overview of the Environmental Impact Assessment (EIA) process and specialist studies being undertaken to assess the Hyperion Thermal Facility.
- » details of how you can become involved in the EIA process, receive information, or raise issues, which may concern and/or interest you.

Overview of the proposed Thermal Dual Fuel Facility

In response to the growing electricity demand and increasing grid constraints (i.e. Load shedding) within South Africa, and the need to promote energy generation and sustainability within the Northern Cape Province, the development of a 75MW thermal generation plant on the Remainder of the Farm Lyndoch 432 (refer to locality map) is proposed. The proposed project is proposed in response to the Request for Proposal from the DMRE for the RMIPPPP, which requires projects to be fully dispatchable to assist Eskom in reducing Load Shedding.

The development footprint for the thermal facility is located within the area considered for the Hyperion 1 & 2 PV facilities and is anticipated to be approximately 5ha in extent. Infrastructure associated with the proposed project will include:

- » Gas turbines or Reciprocating Engines
- » Access road
- » Truck entrance and parking facility
- » Regasification plant and fuel preparation plant
- » Dry cooling system for operating oils/chemicals
- » Fuel off-loading facility
- » Fuel storage facility
- » Water demineralisation plant
- » Substation, cabling, O&M building, fencing, warehouses and workshops

The thermal facility is proposed on Remainder of the Farm Lyndoch 432 and is intended to operate using Liquefied Petroleum Gas (LPG) or diesel. Fuel will be delivered to the site by road via the R380. A new access road will be constructed to the facility and will cross Portion 1 of Farm 464.



The specialist studies will identify the position of and assess the localised impact of the proposed thermal dual fuel facility and associated infrastructure. Once constraining factors have been determined, the layout for the thermal dual fuel facility can be planned to minimise any potential social and environmental impacts.

Proposed Technology

The thermal dual fuel facility together with the authorised Hyperion 1 & 2 Solar PV Energy Facilities will work as a hybrid generation facility consisting of a dispatchable, dual fuel (liquid or gas) thermal generation plant in combination with the PV facilities. There will be a single point of connection to the utility (Eskom) on site, with connection to the national electricity grid at the existing Eskom Kalbas substation. The hybrid facility will aim to meet the RMIPPPP requirement of being 100% dispatchable between the hours of 05h00 and 21h30. Where possible and where available, solar power will be utilised to meet the demand. Where solar power is not available (typically between the hours of 5h00 and 07h00 and again between 18h00 and 21h30), the thermal dual fuel facility will be utilised. It is currently estimated that between 50 – 65% of the demand will be met utilising solar power with the remaining 35 – 50% being met with thermal generation. The facility will be controlled by a joint controller that will have the capability of assessing the demand and regulating the power supply from the solar and thermal facilities accordingly.

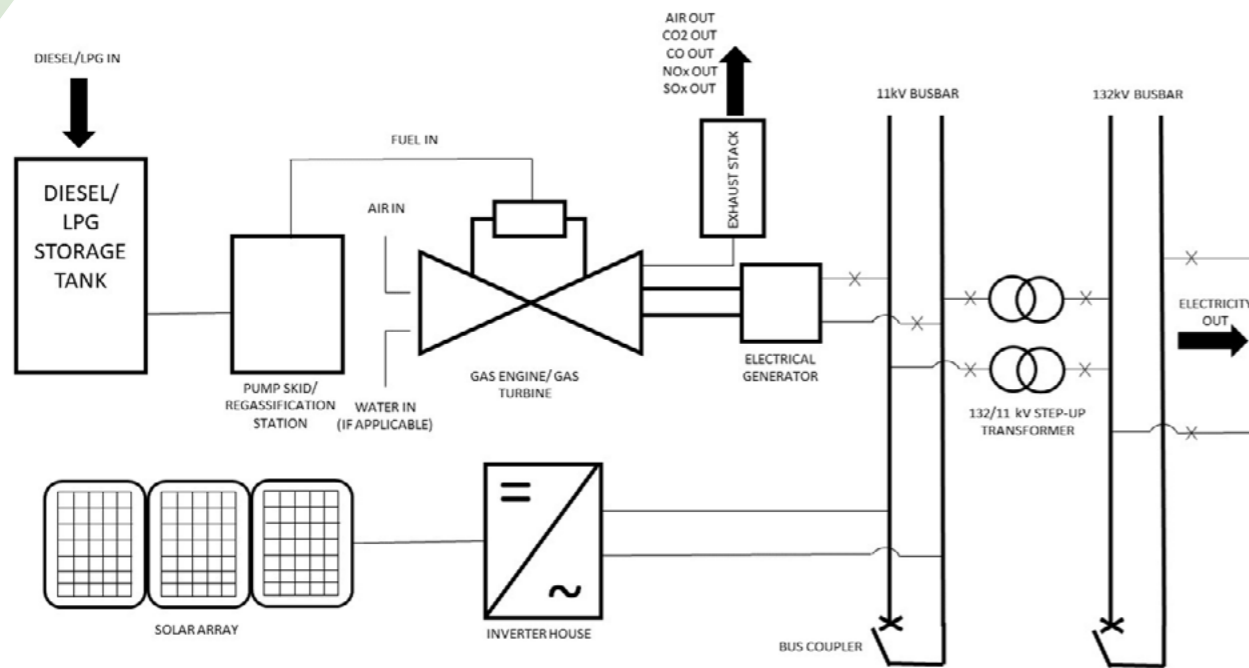


Figure 1: Illustration of hybrid thermal power plant and PV solar energy facility

Two technologies are being proposed for the thermal plant – i.e. reciprocating gas engines and gas turbines.

Reciprocating gas engines are similar to Marine Diesel Engines used to propel large boats. The fuel used will be either LPG or diesel. The fuel is kept under pressure according to the demand of the engine and it is supplied to the cylinder mixed with air necessary for combustion. The gas engines in a power plant configuration are used to turn a generator that creates electricity. By using a transformer, the electricity generated is shaped and sized to distribute into the electricity grid.

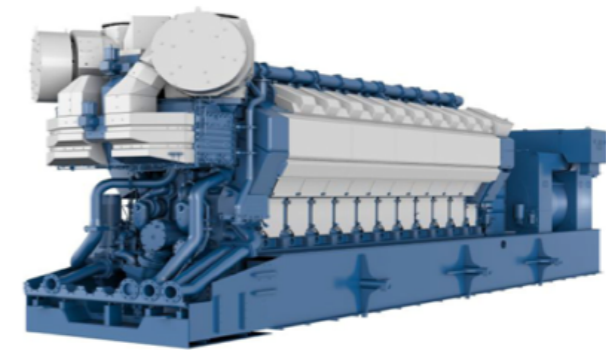


Figure 2: Illustration of reciprocating gas engines

Gas turbines used in electricity generation range from large-scale industrial grade turbines to small compact turbines, based on models used in the aircraft industry. The gas turbine compresses air and mixes it with fuel which is combusted to produce high temperature combustion gases. The high temperature combustion gases pass through a gas turbine resulting in the rotation of the turbine blades. The rotational movement of the turbine blades at a high speed drives a generator which converts a portion of the energy produced by the rotational blades into electricity. The gas turbine power plant proposed for the thermal dual fuel facility will comprise of approximately 10 turbines depending on the final choice of turbine.



Figure 3: Visual representation of the gas turbine technology option.



Environmental Impact Assessment Process

As per the EIA Regulations published in terms of Section 24(5) of the National Environmental Management Act (NEMA, Act No 107 of 1998), the thermal dual fuel power facility will require Environmental Authorisation (EA) from the National Department of Environment, Forestry and Fisheries (DEFF) (in consultation with Northern Cape Environment Affairs and Nature Conservation (NC EANC)). In terms of sections 24 and 24D of the National Environmental Management Act (No 107 of 1998), as read with the EIA Regulations, 2014, as amended (GNR 324 - 327), a Scoping and EIA process is required to support the application for authorisation. The application for authorisation is required to be supported by comprehensive, independent environmental studies undertaken in accordance with the EIA Regulations, 2014, as amended, and relevant specialist protocols.

An EIA is an effective planning and decision-making tool. It allows the environmental consequences resulting from the construction and operation of a project to be identified early in the planning process and appropriately managed. It provides the opportunity for the developer to be fore-warned of potential environmental issues and allows for the resolution of the issue(s) reported on in the EIA report, as well as opening a dialogue with interested and affected parties.

Savannah Environmental has been appointed as the independent environmental consultant to undertake the required Scoping and EIA process, in order to identify and assess all potential environmental impacts associated with the Hyperion Thermal Dual Fuel facility and its associated infrastructure, and recommend appropriate mitigation measures in an Environmental Management Programme (EMPr). As part of these environmental studies, I&APs will be actively involved through the public participation process being undertaken by Savannah Environmental.

What are the potential environmental impacts associated with the Thermal Dual Fuel Facility?

Based on the nature and extent of the proposed project, the nature of the affected area, and experience of the consultants on similar projects, a number of potential environmental impacts associated with the proposed project have been identified at this stage. Site-specific social and environmental specialist studies will be undertaken for the identified corridor in order to delineate areas of potential sensitivity, assess impacts associated with the project and make recommendations regarding avoidance, management and mitigation of impacts. Specialist studies will consider the following:

- » Impacts on biodiversity, including ecology, freshwater ecology, fauna and flora.
- » Impacts on avifauna.
- » Impacts on soils and agricultural potential.
- » Impacts on heritage resources, including the archaeology and palaeontology.
- » Impacts on the social and socio-economic environment.
- » Impacts on the visual quality of the area.
- » Traffic Impacts.
- » Noise impacts.
- » Air quality impacts.
- » Potential risks associated with the thermal facility determined by Major Hazard Installation Assessment.

The independent specialist studies will be undertaken in two phases:

1. A Scoping phase study, wherein potential issues associated with the thermal dual fuel facility and associated infrastructure are identified and evaluated, and those issues requiring further investigation through the EIA phase are highlighted.
2. A detailed EIA phase assessment and ground-truthing of the potentially significant impacts identified in the Scoping Phase. Where avoidance of impacts is not possible, practical and achievable mitigation measures will be recommended in order to minimise the significance of the potential impacts identified. These recommendations will be included within an Environmental Management Programme (EMPr).

The specialist studies will be informed by existing information, field observations and input from the public participation process. As an I&AP, your input is considered as an important part of the process, and we urge your involvement.

Public Participation Process

The sharing of information forms the basis of the public participation process and offers you the opportunity to become actively involved in the EIA process from the outset. Comments and inputs from I&APs during the EIA process are encouraged in order to ensure that all potential impacts are considered within the ambit of the study.

The public involvement process aims to ensure that:

- » Information containing all relevant facts in respect of the application are made available to I&APs for review.
- » Participation by potential I&APs is facilitated in such a manner that I&APs are provided with a reasonable opportunity to comment on the application.
- » Adequate review period is provided for I&APs to comment on the findings of the Scoping and EIA reports.

Your responsibilities as an I&AP

In terms of Section 24J of the National Environmental Management Act, Act 107 of 1998 and the Department of Environmental Affairs Public Participation Guideline 2017, as part of the EIA process, an I&AP has the responsibility to:

- » Provide comment regarding the proposed project within the specified timeframes;
- » Submit written comment directly to the EAP;
- » Disclose any direct business, financial, personal or other interest which that I&AP may have in the approval or refusal of the applications.

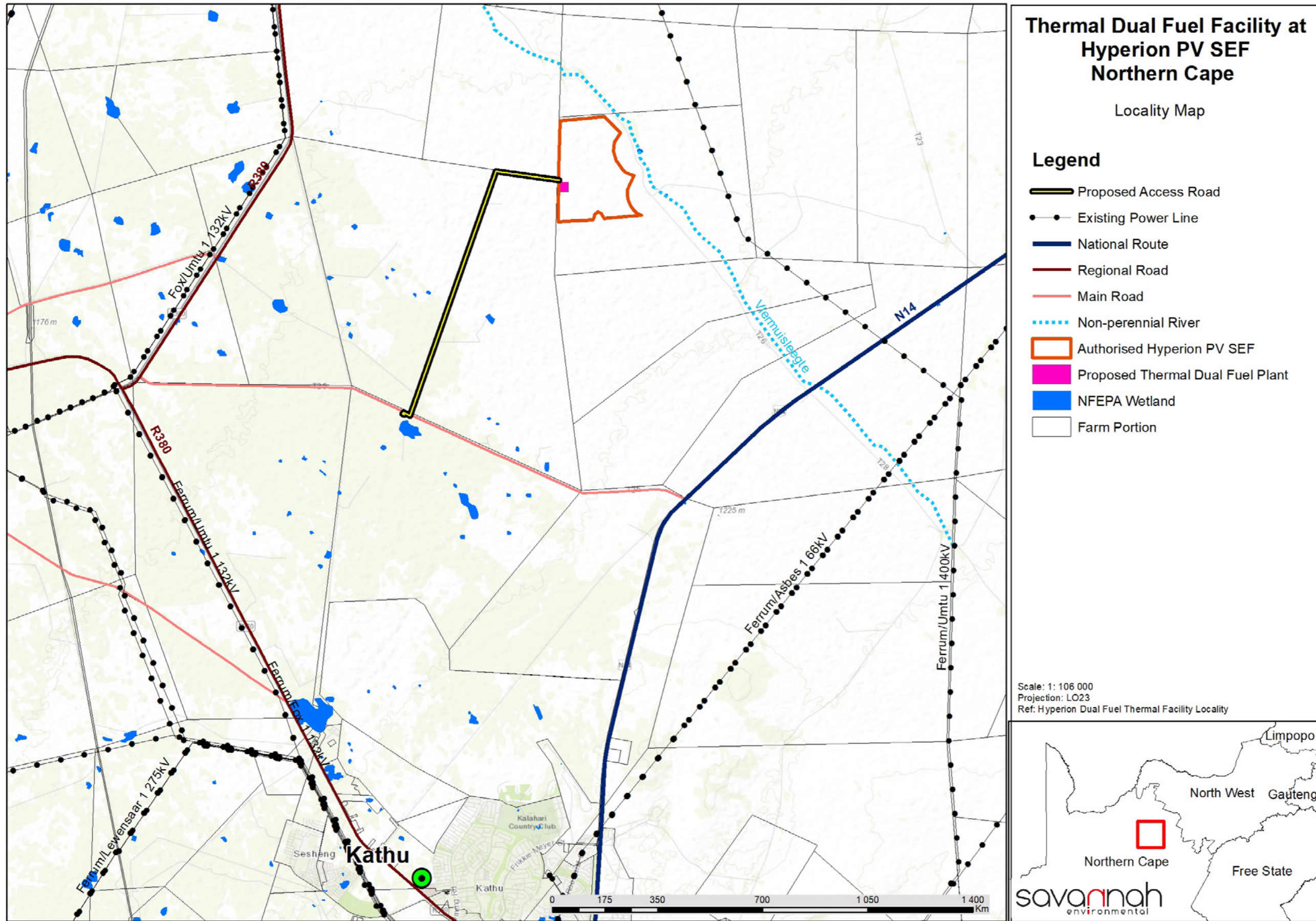
How to become involved

1. By responding (by phone, fax or email) to our invitation for your involvement which has been advertised in local newspapers and on site.
2. By returning the attached Reply Form to the relevant contact person.
3. By attending the virtual meetings to be held during the course of the EIA process.
4. By contacting the consultants with queries or comments.
5. By reviewing and commenting on the Scoping and EIA reports within the stipulated 30-day review periods.

If you consider yourself an I&AP for the Thermal Dual fuel facility, we urge you to make use of the opportunities created by the public participation process to provide comment or raise those issues and concerns which affect and/or interest you, and about which you would like more information. Your input into this process forms a key element of the EIA process.



Figure 1: Overall Thermal Dual Fuel Facility Locality Map and Layout





COMMENTS AND QUERIES

Direct all comments, queries or responses to:

Savannah Environmental
Nicolene Venter
P.O. Box 148, Sunninghill, 2157
Tel: 011 656 3237
Fax: 086 684 0547
Email: publicprocess@savannahsa.com

To view project documentation, visit
www.savannahSA.com



OKTOBER
2020



OMGEWINGSIMPAKEVALUERINGSPROSES

ONTWIKKELING VAN 'N TERMIESE TWEeledIGE BRANDSTOF KRAGSTASIE OM DEEL TE
VORM VAN 'N HIBRIEDE OPWEKKINGSAANLEG TESAME MET DIE GEMAGTIGDE HYPERION
1 & 2 FV-SONKRAGAAANLEG NABY KATHU

NOORD-KAAPPROVINSIE

Hyperion Solar Development (Edms.) Bpk. beoog die ontwikkeling van 'n hibriede opwekkingsaanleg, bestaande uit 'n lewerbare, tweeledige brandstof (vloeistof of gas) termiese opwekkingsaanleg wat in kombinasie met die gemagtigde Hyperion 1 & 2 FV-sonkragaanleg sal werk.

Die hibriede termiese kragaanleg, toegangspad en verwante kragnetkonneksie-infrastruktuur is sowat 22 km noord van Kathu in die Gamagara Plaaslike Munisipaliteit, wat in die regsgebied van die John Taolo Gaetsewe Distriksmunisipaliteit, Noord-Kaapprovinsie, geleë is. Die krag wat deur die Hyperion hibriede opwekkingsaanleg opgewek word, sal aan die hand van 'n oorhoofse 132 kV kraglyn tot by die bestaande Eskom Kalbas Substasie, wat suidwes van die hibriede opwekkingsaanlegterrein geleë sal wees, by die nasionale kragnet invoer.

Die ontwikkelaar is van voorneme om die Hyperion hibriede aanleg (d.i. die FV- en termiese tweeledige brandstofaanleg tesame met die verwante kraglyn) in die verkrygingsproses aan te bied wat deur die Kantoor van die Onafhanklike Kragprodusent (KOK) onderneem is vir die verkryging van tot hoogstens 2 000 MW lewerbare kragvermoë uit 'n reeks tegnologieë. Hierdie toewysing is in ooreenstemming met die nuwe benodigde kragopwekkingsvermoë soos gespesifiseer in die Geïntegreerde Hulpbronplan 2019 en meegaande ministeriële bepaling deur die Minister vir die Departement van Minerale Hulpbronne en Energie (DMHE) waarmee die Nasionale Energiereguleerder van Suid-Afrika (Nersa) saamgestem het. Die KOK-kantoor het verkryging vir die 2 000 MW vermoë ingevolge die Risikoversagting Verkrygingsprogram vir Onafhanklike Kragprodusente (RMIPPPP) van stapel gestuur. Die RMIPPPP is ontwerp as 'n Strategiese Geïntegreerde Projek (SGP).

Doel van hierdie agtergrondinligtingsdokument

Hierdie dokument stel dit ten doel om u, as 'n belangstellende en/of geaffekteerde party (B&GP), te voorsien van:

- » 'n oorsig van die beoogde termiese tweeledige brandstof kragaanleg, wat deel vorm van die Hyperion hibriede opwekkingsaanleg;
- » 'n oorsig van die Omgewingsimpakevalueringsproses (OIE-proses) en spesialisstudies wat onderneem word om die Hyperion Termiese Aanleg te evalueer; en
- » besonderhede van hoe u by die OIE-proses betrokke kan raak, inligting kan ontvang of vraagstukke kan opper wat u dalk kan raak en/of vir u van belang kan wees.

Oorsig van die beoogde Termiese Tweeledige Brandstofaanleg

In antwoord op die groeiende vraag na elektrisiteit en toenemende kragnetbeperkings (d.i. beurtkrag) in Suid-Afrika, en die behoefte om kragopwekking en volhoubaarheid in die Noord-Kaapprovinsie te bevorder, word die ontwikkeling van 'n 75 MW termiese opwekkingsaanleg op die Restant van die plaas Lyndoch 432 (sien liggingskaart) beoog. Die beoogde projek word beoog in antwoord op die Versoek vir Voorstelle deur die DMHE vir die RMIPPPP, wat vereis dat projekte ten volle lewerbaar moet wees om Eskom te help om Beurtkrag te verminder.

Die ontwikkelingsvoetspoor vir die termiese aanleg is geleë in die gebied wat oorweeg word vir die Hyperion 1 & 2 FV-aanleg en sal na verwagting sowat 5 ha beslaan. Infrastruktuur wat met die beoogde projek gepaard gaan, sal die volgende insluit:

- » Gasturbines of Suierenjins
- » Toegangspad
- » Ingang en parkeergebied vir vragmotors
- » Hervergassingsaanleg en brandstofvoorbereidingsaanleg
- » Droëkoelstelsel vir bedryf van olies/chemikalieë
- » Brandstofaflaai-aanleg
- » Brandstofbergingsaanleg
- » Waterdemineraliseringsaanleg
- » Substasie, kables, bedryfs- en instandhoudingsgebou (O&M-gebou), heining, store en werkswinkels.

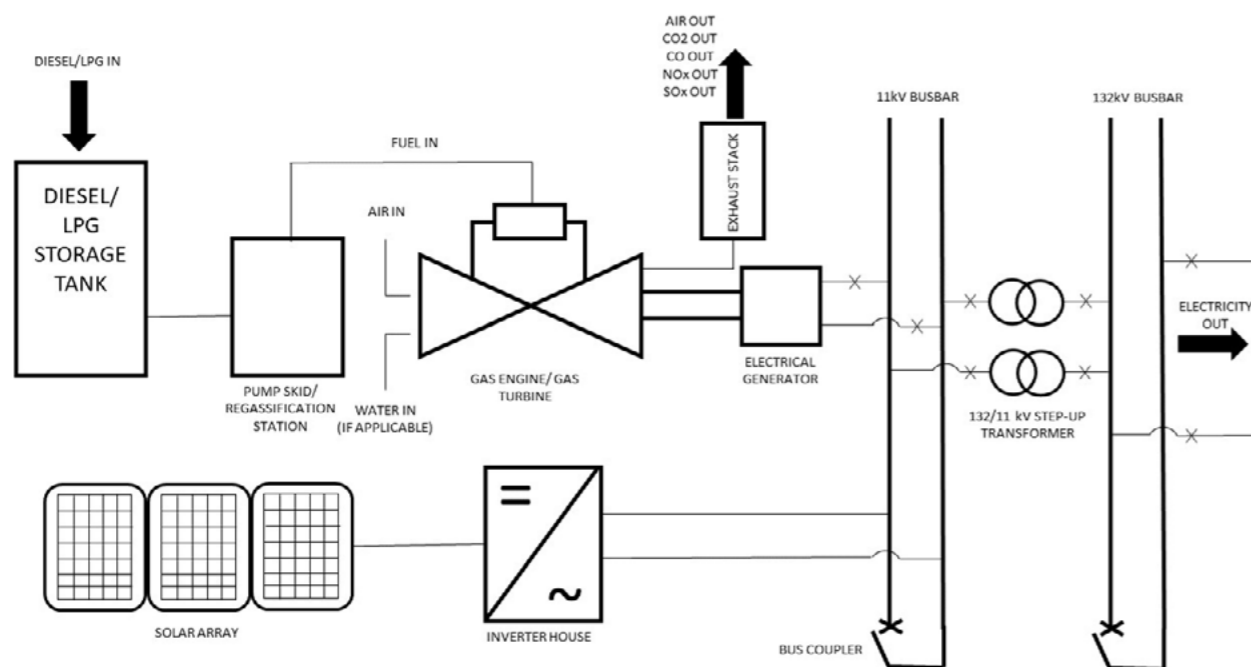


Die termiese aanleg word beoog op die Restant van die plaas Lyndoch 432 en is bedoel om bedryf te word deur van Vloeibare Petroleumgas (LPG) of diesel gebruik te maak. Brandstof sal per pad met die R380 by die terrein afgelewer word. 'n Nuwe toegangspad sal op die aanleg gebou word en sal oor Gedeelte 1 van Plaas 464 loop.

Die spesialisstudies sal die posisie van die gelokaliseerde impak van die beoogde termiese tweeledige brandstofaanleg en verwante infrastruktuur identifiseer en evalueer. Sodra beperkende faktore bepaal is, kan die uitleg vir die termiese tweeledige brandstofaanleg beplan word om enige potensiële maatskaplike en omgewingsimpakte te minimaliseer.

Boogde tegnologie

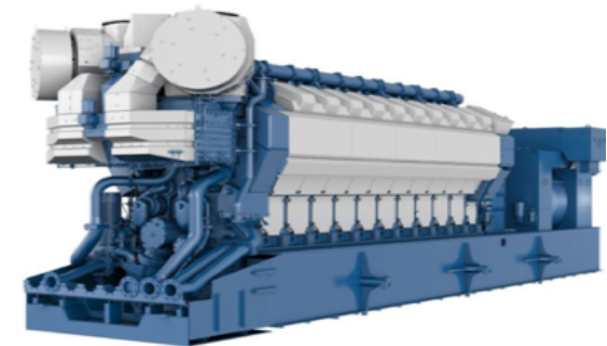
Die termiese tweeledige brandstofaanleg, tesame met die gemagtigde Hyperion 1 & 2 FV-sonkragaanleg, sal as 'n hibriede opwekkingsaanleg werk wat bestaan uit 'n lewerbare, tweeledige brandstof (vloeistof of gas) termiese opwekkingsaanleg in kombinasie met die FV-aanlegte. Daar sal 'n enkele verbindingspunt met die nutsmaatskappy (Eskom) op die terrein wees, met verbinding aan die nasionale kragnet by die bestaande Eskom Kalbas Substasie. Die hibriede aanleg sal poog om aan die RMIPPPP-vereiste te voldoen, naamlik om tussen 05h00 en 21h30 100 % lewerbaar te wees. Waar moontlik en waar beskikbaar, sal sonkrag benut word om aan die vraag te voldoen. Waar sonkrag nie beskikbaar is nie (gewoonlik tussen 05h00 en 07h00 en weer tussen 18h00 en 21h30), sal die termiese tweeledige brandstofaanleg ingespan word. Die huidige beraming is dat daar aan tussen 50–65 % van die vraag voldoen sal word deur sonkrag te benut, met die oorblywende 35–50 % wat met termiese opwekking sal geskied. Die aanleg sal deur 'n gesamentlike kontroleerder beheer word wat oor die vermoë sal beskik om die vraag te evalueer en die kragvoorsiening uit die son- en termiese kragaanlegte dienoreenkomstig sal reguleer.



Figuur 1: Illustrasie van hibriede termiese kragaanleg en FV-sonkragaanleg

Twee tegnologieë word vir die termiese aanleg beoog – d.i. suiergasenjins en gasturbines.

Suiergasenjins is soortgelyk aan Marine Dieselenjins wat gebruik word om groot bote mee aan te dryf. Die brandstof wat gebruik sal word, sal hetsy LPG of diesel wees. Die brandstof word onder druk gehou volgens die vraag van die enjin en met die nodige lug vir ontbranding gemeng en aan die silinder voorsien vir ontbranding. Die gasenjins in 'n kragaanlegkonfigurasie word gebruik om 'n generator te draai wat elektrisiteit opwek. Deur 'n transformator te gebruik, word die opgewekte elektrisiteit gevorm en teen die korrekte lading gekry om by die kragnet in te voer.



Figuur 2: Illustrasie van 'n suiergasenjin

Gasturbines wat in kragopwekking gebruik word, wissel van grootskaal industriële graad turbines tot klein kompakte turbines, op grond van modelle wat in die vliegtuigbedryf gebruik word. Die gasturbine druk lug saam en meng dit met brandstof, wat ontbrand om hoë temperatuur ontbrandingsgasse te produseer. Die hoë temperatuur ontbrandingsgasse gaan deur 'n gasturbine wat die rotasie van die turbineblad tot gevolg het. Die draibeweging van die turbineblaie teen 'n hoë spoed, dryf 'n generator aan wat 'n deel van die krag wat deur die draaiende blaie opgewek word, in elektrisiteit omsit. Die gasturbine kragaanleg wat vir die termiese tweeledige brandstofaanleg beoog word, sal bestaan uit sowat 10 turbines, afhangend van die uiteindelijke keuse van turbine.



Figuur 3: Visuele voorstelling van die gasturbine tegnologie-opsie.



Omgewingsimpakevalueringsproses

Ingevolge die OIE-regulasies wat kragtens Artikel 24(5) van die Nasionale Wet op Omgewingsbestuur (NEMA, Wet 107 van 1998) gepubliseer is, sal die termiese tweeledige brandstofkragaanleg Omgewingsmagtiging (OM) van die Nasionale Departement van Omgewing, Bosbou en Visserye (DEFF) (in oorleg met die Noord-Kaapse Departement van Omgewingsake en Natuurbewaring (NK DENC)) verg. Ingevolge Artikel 24 en 24D van die Nasionale Wet op Omgewingsbestuur (Wet 107 van 1998), saamgelees met die OIE-regulasies, 2014, soos gewysig (Staatskennisgewing R324–R327), word 'n Bestekopname- en 'n OIE-proses verlang ter staving van die aansoek om magtiging. Die aansoek om magtiging moet gestaaf word deur omvattende, onafhanklike omgewingstudies wat ingevolge die OIE-regulasies, 2014 (soos gewysig), en tersaaklike spesialisprotokols, onderneem word.

'n OIE is 'n doeltreffende beplannings- en besluitnemingswerktuig. Dit bring mee dat die omgewingsverwante gevolge wat voortspruit uit die oprigting en bedryf van 'n projek, vroeg in die beplanningsproses geïdentifiseer en na behore bestuur word. Dit stel die ontwikkelaar in staat om vooraf gewaarsku te wees teen potensiële omgewingsvraagstukke en bied die geleentheid om die vraagstuk(ke) waarvoor verslag gedoen is in die OIE-verslag op te los, en ook om dialoog met belangstellende en geaffekteerde partye te bewerkstellig.

Savannah Environmental is aangestel as die onafhanklike omgewingskonsultant om die nodige Bestekopname en OIE-proses te onderneem om alle potensiële omgewingsimpakte met betrekking tot die Hyperion Termiese Tweeledige Brandstofaanleg en verwante infrastruktuur te identifiseer en te evalueer, en om gepaste versagtingsmaatreëls in 'n Omgewingsbestuursprogram (OBPr) aan te beveel. As deel van hierdie omgewingstudies sal B&GP's aktief betrokke raak deur die openbare deelnameproses wat deur Savannah Environmental onderneem word.

Wat is die potensiële omgewingsimpakte wat met die Termiese Tweeledige Brandstofaanleg verband hou?

Op grond van die aard en omvang van die beoogde projek, die aard van die geaffekteerde gebied en ervaring van die konsultante met soortgelyke projekte, is 'n aantal potensiële omgewingsimpakte wat met die beoogde projek verband hou, op hierdie stadium geïdentifiseer. Terreinspesifieke maatskaplike en omgewingspesialisstudies sal vir die geïdentifiseerde korridor onderneem word om gebiede van potensiële sensitiwiteit af te baken, impakte wat met die projek verband hou te evalueer en aanbevelings te maak met betrekking tot vermyding, bestuur en versagting van impakte.

Spesialisstudies sal die volgende oorweeg:

- » Impakte op biodiversiteit, insluitend ekologie, varswaterekologie, fauna en flora;
- » impakte op avifauna;
- » impakte op grondsoorte en landboupotensiaal;
- » impakte op erfenishulpbronne, insluitend argeologie en paleontologie;
- » impakte op die sosio-ekonomiese omgewing;
- » impakte op die gebied se visuele gehalte;
- » verkeersimpakte;
- » geraasimpakte;
- » impakte op luggehalte; en
- » potensiële risiko's wat verband hou met die termiese aanleg soos bepaal deur 'n Installasie-evaluering van Groot Gevare.

Die onafhanklike spesialisstudies sal in twee fases onderneem word:

1. 'n Bestekopnamefasestudie, waartydens potensiële vraagstukke wat met die termiese tweeledige brandstofaanleg en verwante infrastruktuur verband hou, geïdentifiseer en geëvalueer sal word en daardie vraagstukke wat verdere ondersoek verg, deur die OIE-proses uitgelig word.
2. 'n Gedetailleerde OIE-fase-evaluering en ter plaatse staving van die potensiële-wesenlike impakte wat tydens die Bestekopnamefase geïdentifiseer is. Waar vermyding van impakte nie moontlik is nie, sal praktiese en uitvoerbare versagtingsmaatreëls aanbeveel word om die wesenslikheid van die potensiële impakte wat geïdentifiseer is, te minimaliseer. Hierdie aanbevelings sal in 'n Omgewingsbestuursprogram (OBPr) vervat word.

Die spesialisstudies sal toegelig word deur bestaande inligting, veldwaarnemings en insette wat uit die openbare deelnameproses voortspruit. As 'n B&GP word u insette as 'n belangrike deel van die proses geag, en ons moedig u aan om betrokke te raak.

Openbare Deelnameproses

Die deel van inligting vorm die grondslag van die openbare deelnameproses en bied u die geleentheid om uit die staanspoor aktief by die OIE-proses betrokke te raak. Kommentaar en insette van B&GP's tydens die OIE-proses word aangemoedig ten einde te verseker dat oorweging aan alle potensiële impakte binne die omvang van die studie geskenk word.

Die openbare betrokkenheidsproses poog om te verseker dat:

- » inligting wat al die tersaaklike feite met betrekking tot die aansoek bevat, aan B&GP's beskikbaar gestel word vir oorsig;
- » deelname deur potensiële B&GP's op so 'n wyse gefasiliteer word dat hulle 'n redelike geleentheid gegun word om kommentaar te lewer op die aansoek; en
- » 'n voldoende oorsigtydperk aan B&GP's gebied word om kommentaar te lewer op die bevindinge van die Bestekopname- en OIE-verslag.

U verantwoordelikhede as 'n B&GP

Ingevolge Artikel 24J van die Nasionale Wet op Omgewingsbestuur, Wet 107 van 1998, en die Departement van Omgewingsake se Openbare Deelnameriglyn, 2017, as deel van die OIE-proses, het 'n B&GP die verantwoordelikheid om:

- » kommentaar met betrekking tot die beoogde projek in die gespesifiseerde tydsraamwerke te lewer;
- » skriftelike kommentaar regstreeks by die OEP in te dien; en
- » enige regstreekse sake-, finansiële-, persoonlike- of ander belange bekend te maak wat daardie B&GP in die goedkeuring of afkeuring van die aansoeke kan hê.

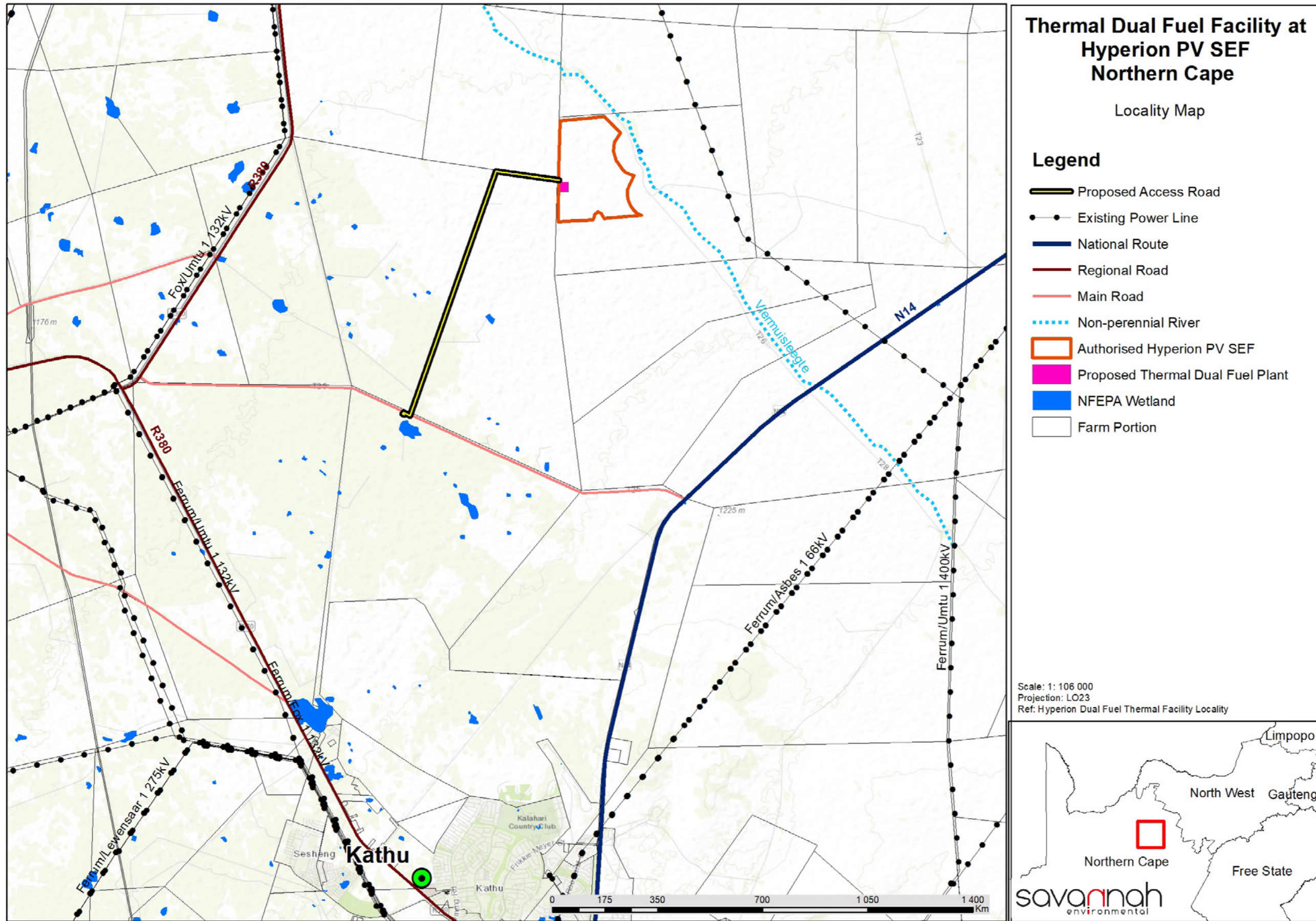
Hoe om betrokke te raak

1. Deur te reageer (telefonies, per faks of per e-pos) op ons uitnodiging vir u betrokkenheid wat in plaaslike koerante en op die terrein geadverteer is.
2. Deur die aangehegte Antwoordvorm aan die tersaaklike kontakpersoon terug te besorg.
3. Deur die virtuele vergaderings by te woon wat tydens die verloop van die OIE-proses gehou sal word.
4. Deur die konsultante te kontak met navrae of kommentaar.
5. Deur die Bestekopname- en OIE-verslag na te gaan en binne die gestipuleerde 30-dae oorsigtydperk daarop kommentaar te lewer.

As u self as 'n B&GP vir die Termiese Tweeledige Brandstofaanleg ag, moedig ons u aan om gebruik te maak van die geleentheid wat deur die openbare deelnameproses geskep word om kommentaar te lewer of daardie vraagstukke en knelpunte te opper wat u raak en/of waarin u belangstel en waarvoor u meer inligting verlang. U insette in hierdie proses vorm 'n belangrike deel van die OIE-proses.



Figuur 1: Liggingskaart en Uitleg van Algehele Termiese Tweeledige Brandstofaanleg





KOMMENTAAR EN NAVRAE

Rig alle kommentaar, navrae of antwoorde aan:

Savannah Environmental

Nicolene Venter

Posbus 148, Sunninghill, 2157

Tel: 011 656 3237

Faks: 086 684 0547

E-pos: publicprocess@savannahsa.com

Besoek

www.savannahSA.com

om projekdokumentasie te besigtig.



ENVIRONMENTAL IMPACT ASSESSMENT AND PUBLIC PARTICIPATION PROCESSES

DEVELOPMENT OF A THERMAL POWER DUAL FUEL FACILITY TO FORM PART OF A HYBRID GENERATION FACILITY TOGETHER WITH THE AUTHORISED HYPERION 1 & 2 SOLAR PV ENERGY FACILITIES, NEAR KATHU, NORTHERN CAPE PROVINCE

October 2020

Return completed registration and comment form to: **Nicolene Venter** or **Ronald Baloyi** of **Savannah Environmental**

Phone: 011 656 3237 / **Mobile (incl. 'please call me')**: 060 978 8396 / **Fax:** 086 684 0547

E-mail: publicprocess@savannahsa.com **Postal Address:** PO Box 148, Sunninghill, 2157

Your registration as an interested and/or affected party will be applicable for this project only and your contact details provided are protected by the PoPI Act of 2013

Please provide your complete contact details:

| | | |
|-----------------|--|------|
| Name & Surname: | | |
| Organisation: | | |
| Designation: | | |
| Postal Address: | | |
| Telephone: | | Fax: |
| Mobile: | | |
| E-mail: | | |

Would you like to register as an interested and affected party (I&AP)? YES
 (please tick the relevant box) NO

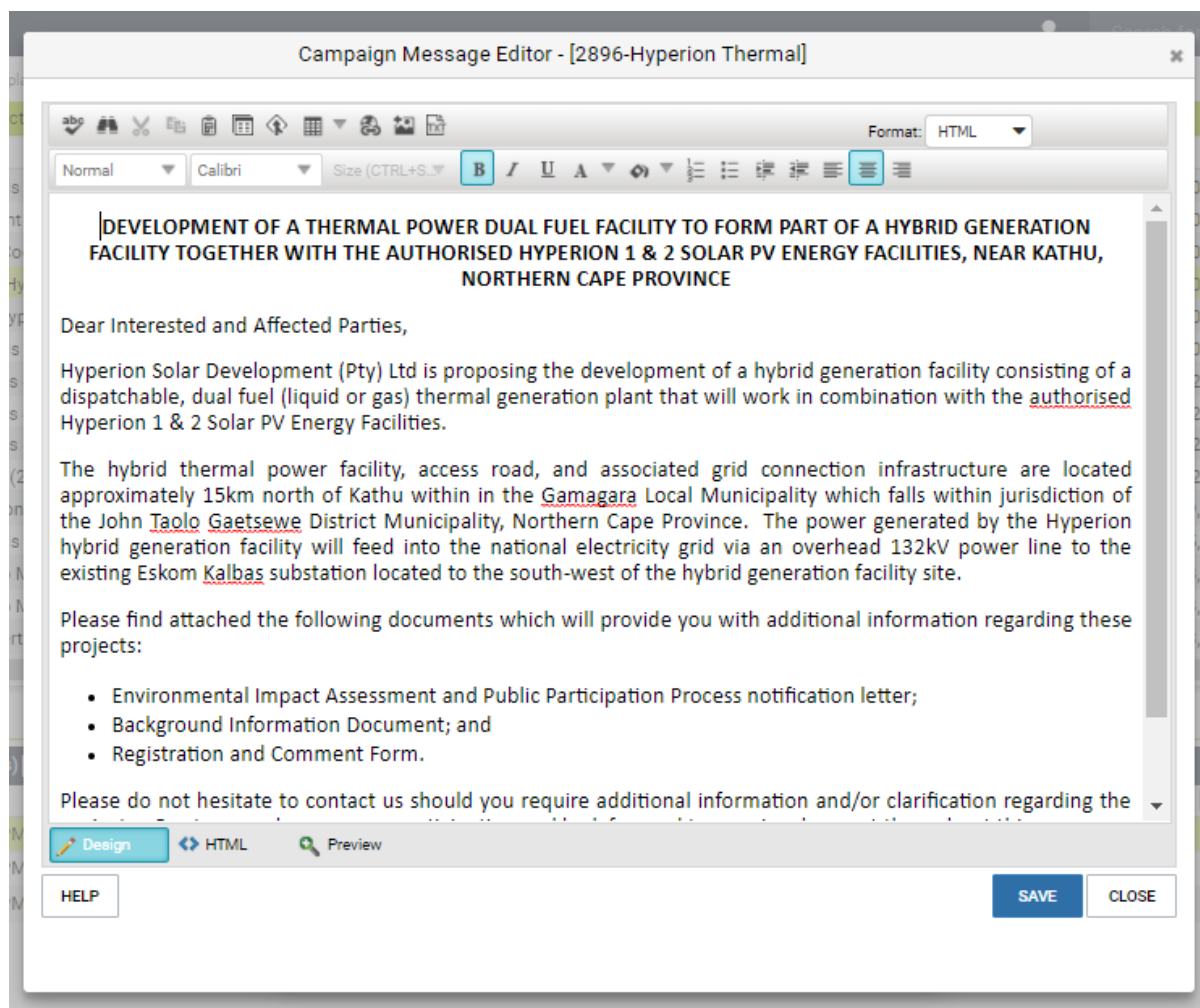
Note: In terms of EIA Regulations, 2014, as amended, Regulation 43(1), you are required to register as an I&AP to receive further correspondence regarding the EIA process and comment on the Reports being made available for comments, and to disclose any direct business, financial, personal or other interest which you may have in the approval or refusal of the application (add additional pages if necessary):

Please list your comments regarding the Environmental Impact Assessment process (add additional pages if necessary):

Please provide contact details of any other persons who you regard as a potential interested or affected party:

| | |
|-----------------|--|
| Name & Surname: | |
| Postal Address: | |
| Telephone: | |
| Mobile: | |
| E-mail: | |

Proof of email



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Proof of email - Hyperion Thermal Energy Facilities: Notification of Environmental Impact Assessment and Public Participation Process

Date:
Wednesday,
October 14,
2020
Time: 4:39
PM

| Company | Last Name | First Name | |
|---|---------------|-------------|--|
| | Burger | Jan & Linda | |
| | Burger | Linda | |
| | Burger | Sakkie | |
| | Burger | Schalk | |
| | Knoesen | Thomas | |
| | Nel | Jurie | |
| | Spangenberg | Gerrit | |
| | Steyn | Nico | |
| | Vorster | Johan | |
| African Farmers Association of South Africa | Mahlati | Vuyo | |
| Agri Northern Cape | Jansen | Nicol | |
| Air Traffic and Navigation Services (ATNS) | Masilela | Simphiwe | |
| Anglo American | Hlophe | Thokozani | |
| Anglo American | Mayer | Brenda | |
| Anglo American | Thokozani | Hlope | |
| BirdLife South Africa | Ralston Paton | Samantha | |
| BirdLife South Africa | Ralston-Paton | Samantha | |
| Bokkie Robinson Familie Trust | Robinson | Rupert | |
| Department of Agriculture, Forestry and Fisheries | Buthelezi | Thoko | |
| Department of Agriculture, Forestry and Fisheries | Mans | Jacoline | |
| Department of Agriculture, Forestry and Fisheries | Marubini | Mashudu | |
| Department of Energy | Masipa | Pheladi | |
| Department of Energy | Qase | Nomawethu | |
| Department of Environment, Forestry and Fisheries | Lekota | Seoka | |
| Department of Mineral Resources | Kika | Ntsikelelo | |
| Department of Mineral Resources | Mabaso | Sunday | |
| Department of Mineral Resources | Mutheiwana | Kevin | |
| Department of Mineral Resources | Nieuwoudt | Jasper | |
| Department of Mineral Resources and Energy | Maphinda | Mthetheleli | |
| Department of Rural Development and Land Reform | Makgalemele | Nozizwe | |
| Department of Rural Development and Land Reform | Moeketsi | Kgotso | |
| Department of Water and Sanitation | Cloete | Shaun | |
| Department of Water and | Mahunonyane | Moses | |

| | | | |
|--|------------------------|---------------------------|--|
| Sanitation | | | |
| Department of Water and Sanitation | Mokhoantle | Lerato | |
| Department of Water and Sanitation | Shibambu | Steven | |
| Department of Water and Sanitation | Shibambu | Steven | |
| Department of Water and Sanitation | Streuders | Kobus | |
| Earthlife Africa | Lekalakala (Secretary) | Makoma | |
| Earthlife Africa | Mokhine | Zini | |
| Endangered Wildlife Trust | Hoogstad | Constant | |
| Eskom Holdings SOC Ltd | Geeringh | John | |
| Eskom Holdings SOC Ltd | Henning | Wimpie | |
| Eskom Holdings SOC Ltd | Khanye | Nondwe | |
| Eskom Holdings SOC Ltd | van Gensen | Andrea | |
| Gamagara Local Municipality | Bitsangk | Lebo | |
| Gamagara Local Municipality | Bob | Jerome | |
| Gamagara Local Municipality | De Wee | Janine | |
| Gamagara Local Municipality | Estavao | Domingos | |
| Gamagara Local Municipality | Fleming | Kathy | |
| Gamagara Local Municipality | Itumeleng | Thusoeng | |
| Gamagara Local Municipality | Lekgadi | Boitumelo | |
| Gamagara Local Municipality | Leserwane | Kgomodikae | |
| Gamagara Local Municipality | Magagane | Neo | |
| Gamagara Local Municipality | Moroe | Anna | |
| Gamagara Local Municipality | Nqume | Frikkie | |
| Gamagara Local Municipality | Orpen | Monica | |
| Gamagara Local Municipality | Ositang | Kagiso | |
| Gamagara Local Municipality | Velishea | Charlott | |
| GTC Project Management (Pty) Ltd | Alberto | | |
| John Taolo Gaetsewe District Municipality | Eilerd | Moses | |
| John Taolo Gaetsewe District Municipality | Leserwane | Dineo | |
| John Taolo Gaetsewe District Municipality | Molale | MG | |
| John Taolo Gaetsewe District Municipality | Molaole | Disang | |
| John Taolo Gaetsewe District Municipality | Mosikatse | Sofia | |
| John Taolo Gaetsewe District Municipality | Tongwane | T | |
| Kalahari Bulletin | Prins | Lecrecia | |
| Kathu Public Library | Tsalao | Theodore | |
| Loubser Familie Trust | Loubser | Cecilia | |
| Ngwao-Boswa Ya Kapa Bokone (N Cape Prov Heritage Resource Authority) | Ratha | Timothy | |
| Northern Cape DENC | Cloete | Peter | |
| Northern Cape DENC | van Heerden | Denver | |
| Northern Cape Department of Agriculture, Land Reform & Rural Development | Diteme | Ali | |
| Northern Cape Department of Agriculture, Land Reform & Rural Development | Mothibi | Wonders Dimakatso Viljoen | |
| Northern Cape Department of Environment & Nature Conservation | Fisher | Bryan | |
| Northern Cape Department of | Swart | Eslabe | |

| | | | |
|---|----------------|---------------------|--|
| Environment & Nature Conservation | | | |
| Northern Cape Department of Environment and Nature Conservation | Ndzumo | Onwabile | |
| Northern Cape Department of Environment and Nature Conservation | Swart | Elsabe | |
| Northern Cape Department of Environment and Nature Conservation | Uys | Natalie | |
| Northern Cape Department of Roads and Public Works | Nogwili | Kholikile | |
| Northern Cape Department of Roads and Public Works | Palm | Ruth | |
| Northern Cape Department of Roads and Public Works | Roelofse | Jaco | |
| Northern Cape Dept of Agriculture, Env Affairs, Rural Dev & Land Reform | Badenhorst | Dewald | |
| Northern Cape Dept of Agriculture, Env Affairs, Rural Dev & Land Reform | De la Fontaine | Samantha | |
| Northern Cape Dept of Agriculture, Env Affairs, Rural Dev & Land Reform | Fisher | Bryan | |
| Northern Cape Dept of Agriculture, Env Affairs, Rural Dev & Land Reform | Moleko | Dineo | |
| Northern Cape Economic Development Agency | Mbobobo | Babalwa | |
| PNP Trust | Hager | Henrietta | |
| Saansveld Boerdery Bk | van Heerden | Andr  | |
| Saansveld Boerdery Bk | van Heerden | Andre | |
| Saansveld Boerdery Bk | van Heerden | Karl | |
| Saltrim Rances | Venter | Hendrik | |
| Sentech Ltd | Motlhake | Serame | |
| Sishen Iron Ore Company (Pty) Ltd | Voigt | Werner | |
| South African Chamber of Commerce and Industry | Mukoki | Alan | |
| South African Chamber of Commerce and Industry | Wadi | Albert | |
| South African Civil Aviation Authority | Stroh | Lizell | |
| South African Department of Defence | Zondi | Lt. Col. Kebasenosi | |
| South African National Roads Agency Limited | Abrahams | Nicole | |
| South African Radio Astronomy Observatory (SARAO) | Matlhane | Selaelo | |
| South African Radio Astronomy Observatory (SARAO) | Sithole | Busang | |
| South African Radio Astronomy Observatory (SARAO) | Tiplady | Adrian | |
| Telkom SA SOC Ltd | Bester | Amanda | |
| Telkom SA SOC Ltd | Shaw | Leonard | |
| Transnet SOC Ltd | Mcleod | Dylan | |

Totals: