

JULY 2017

ENVIRONMENTAL IMPACT ASSESSMENT,
WASTE MANAGEMENT LICENSE,
AND PUBLIC PARTICIPATION PROCESS

DEVELOPMENT OF THE
**MUTSHO POWER PROJECT AND
ASSOCIATED INFRASTRUCTURE
NEAR MAKHADO (LOUIS TRICHARDT)**
LIMPOPO PROVINCE

BACKGROUND INFORMATION DOCUMENT (BID)

savannah
environmental



Mutsho Power (Pty) Ltd proposes the development of a new coal-fired power station and associated infrastructure on a site near Makhado, Limpopo Province. The project is to be known as the Mutsho Power Project. The project is intended to form part of the Department of Energy's (DoE's) Coal Baseload Independent Power Producer (IPP) Procurement Programme (CBIPPPP). The Mutsho Power Project will therefore have a generation capacity of up to 600MW, and will make use of either Pulverised Coal (PC) or Circulating Fluidised Bed (CFB) technology in accordance with the DoE's requirements.

WHAT DOES THIS DOCUMENT TELL YOU?

This document aims to provide Interested and/or Affected Parties (I&APs), with:

- » Background information on the proposed project.
- » An overview of the Environmental Impact Assessment (EIA) and public participation processes being undertaken for the project.
- » 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 PROJECT

Location:

The proposed project is approximately 20km north-west of the Makhado Colliery, in the Musina Local Municipality, of Vhembe District, Limpopo Province. A minimum footprint of approximately 600ha is required for the power plant and associated infrastructure. While the physical power generation components require approximately 50ha, supporting areas for the establishment of coal and other raw material stockpiles, and an ash dump, increase the development footprint. The type of technology selected for implementation will ultimately influence the final project layout and development footprint (i.e. the area of land required for development).

The Mutsho consortium, having previously considered locating the proposed power plant close to the existing Vele colliery (in the vicinity of Mapungubwe with its associated sensitivities), identified two properties through a rigorous site selection process covering more than 135 000ha north of the Soutpansberg as new possible sites for the proposed project, with far less sensitivities, namely:

Farm Name:	Farm Number:	SG21-Digit Code:	Area:
Du Toit	563	TOMS00000000056300000	924.5ha
Vrienden	589	TOMS00000000058900000	1 285.3ha

The possibility exists that the proposed project may be developed in its entirety on either of the abovementioned properties, or alternatively portions of the project may be developed on both.

Power-island and supporting infrastructure:

The project will have a generation capacity of up to 600MW in line with the DoE's CBIPPPP requirements, and will make use of either Pulverised Coal (PC) or Circulating Fluidised Bed (CFB) technology.

The project is planned to comprise of the following key components and associated infrastructure:

- » Power island consisting of:
 - * Pulverised Coal (PC) with Flue Gas Desulphurisation (FGD), or Circulating Fluidised Bed (CFB) boiler technology.
 - * Electrostatic Precipitator (ESP) / Bag filtration systems and Flue / smoke stacks.
 - * Direct or indirect air- cooling systems.
 - * Balance of plant components (including steam turbines and generators etc.).
- » Coal and Limestone / Lime Rail Spur and-or Road offloading Systems.
- » Upgrading or establishment of a rail siding.
- » Coal crusher (for CFB); or coal milling plant (for PC).
- » Strategic and Working Coal stockpiles.

- » Limestone or Lime storage and handling area (for use with CFB or PC technology).
- » Ammonia storage and handling area (for use in flue gas clean-up with PC technology).
- » Ash dump (dry-ashing is proposed in order to reduce the project's water requirements).
- » Water infrastructure. This could include:
 - * Raw water storage dams.
 - * Water supply pipelines and booster stations.
 - * Pollution control dams.
 - * Water treatment plant (WTP).
 - * Wastewater treatment plant (WWTP).
 - * Storm water management systems.
- » HV Yard and substation components with HV overhead transmission lines connecting to the Eskom infrastructure.
- » Control room, office / administration, workshop, storage and logistics buildings.
- » Upgrading of external roads and establishment of internal access roads.
- » Security fencing and lighting.

The project will utilise coal mined at the Makhado Colliery, to be developed approximately 20km south-east of the project site, to fuel its operations. Coal will be transported to site either via a new 22km railway loop, proposed for development between the Makhado Colliery and the existing Huntleigh railway siding, or via road transport and stockpiled onsite.

All other raw materials will either be transported to site via rail or road transport.

Detailed grid integration and bulk water supply options are being investigated by the applicant in consultation with the relevant authorities and have thus been excluded from the current scope of work. These will be assessed through separate applications for Authorisation.

HOW IS ELECTRICITY PRODUCED AT A COAL-FIRED POWER STATION?

The majority of South Africa's electricity is currently generated by coal-fired combustion power stations, which provide baseload power to the national electricity grid. A combustion power station converts thermal energy generated by the combustion of raw materials into mechanical energy which is then transformed into electricity which can be transmitted and distributed to end users where it can be utilised.

Figure 1 illustrates how electricity is typically produced at a coal-fired power station utilising Pulverised Coal (PC) technology, while **Figure 2** illustrates how electricity is typically produced at a coal-fired power station utilising Circulating Fluidised Bed (CFB) technology.

PULVERISED COAL FIRED BOILER

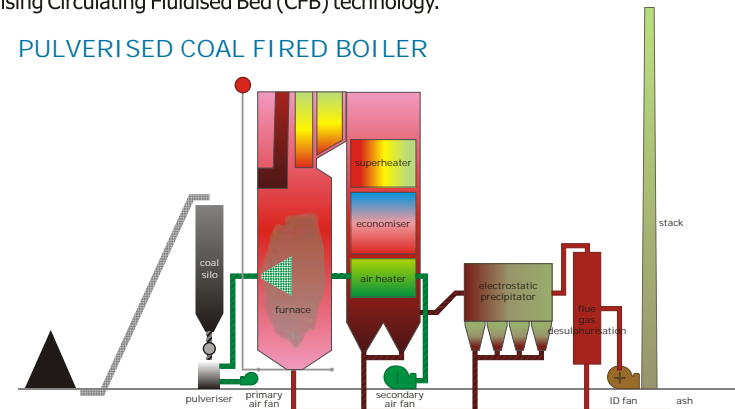


Figure 1: Illustration of a coal-fired power station utilising PC technology.

CIRCULATING FLUIDISED BED BOILER

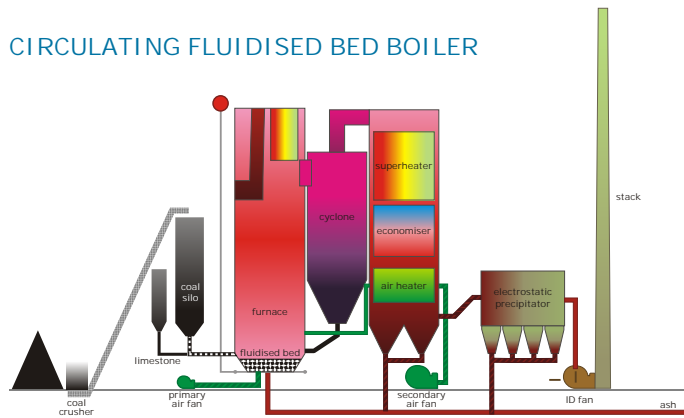


Figure 2: Illustration of a coal-fired power station utilising CFB technology.

An overview of the manner in which electricity is typically generated at PC and CFB power stations is provided in table format below:

PC Power Station	CFB Power Station
<p>1. Pulveriser: Coal is ground into a very fine powder (i.e. pulverised) before being blown into the boiler via a series of nozzles.</p>	<p>1. Crusher: Coal is crushed to a suitable size to allow for combustion within the CFB boiler.</p>
<p>2. PC Boiler: Inside the boiler (furnace), the very fine coal particles mix with heated/combustion air and ignite where they burn at a very high temperature (i.e. typically between 1300°C and 1700°C). The heat from the combusting coal is absorbed by water filled tubes in the various heater components, which line the boiler and flue gas path, to produce steam under very high pressures.</p>	<p>2. CFB Boiler: A Circulating Fluidised Bed (CFB) boiler (furnace), consists of a bed of sand and sorbent which is heated and “fluidised” using jets of air. Crushed coal is introduced to the suspended bed of sand on upward-blowing jets of air where it starts to combust. The sand, coarse particles of coal and sorbent are separated from the flue gases by a cyclone filter, while flue gases are removed from the boiler via an exhaust. The heat from the combusting coal is absorbed by water filled tubes, in the various heater components, which line the boiler and flue gas path, to produce steam under very high pressures.</p>
<p>3. Turbine: The high pressure steam is piped to a turbine through a control valve where it is allowed to expand and pass through the turbine blades, causing them to turn. The movement of steam through the turbine blades causes the thermal (i.e. heat) energy to be converted to mechanical (rotational), energy.</p>	
<p>4. Generator: The turbine is linked to the rotor of a generator which comprises an electromagnet which rotates inside large coils wound from insulated copper wire, and in doing so generates electricity in the form of alternating current (AC).</p>	
<p>5. Transformer: A transformer is used to increase or “step up” one AC voltage to another to allow for transmission of power over long distances at a higher voltage and reduced current (and reduced losses), using smaller conductors (cross section) i.e. typically at 275kV or 400kV.</p>	
<p>6. Transmission: The generated electric power is then fed into the Eskom integrated power grid for distribution and usage.</p>	

7. Condensation and Dry Cooling: Spent steam from the turbine exhaust (at reduced temperature and pressure), is directed into a condenser comprising of finned tubing (much like the radiator on a car). When the spent steam comes into contact with the condenser tubes condensation of the steam takes place, and it is converted back into a liquid state (i.e. water). This water is then pumped back to the boiler for reheating and re-used in the closed loop system.
8. Emission Abatement Technology: The combustion of coal results in the generation and release of various emissions (i.e. CO₂, SO₂, NO_x, etc.) which need to be removed from flue (i.e. exhaust) gases prior to their release. Emission abatement technology such as Flue Gas Desulphurisation (FGD) and Selective Non-Catalytic Reduction (SNCR) are therefore required to remove SO₂ and NO_x emissions from flue gases respectively.
8. Sorbents: Sorbents such as limestone are injected directly into the bed of CFB boilers to neutralise sulphur released during the combustion process, resulting in low sulphur dioxide (SO₂) emissions.
9. Flue Gas Treatment: Fly ash generated by the combustion process is removed from flue gases using systems such as Baghouses (filters), or Electrostatic Precipitators (electrostatic dust attractors).
10. Smoke Stacks: Gases that are released from the combustion process accumulate in the boilers or furnaces, and are filtered and released into the atmosphere via smoke stacks.
11. Dry Ash Disposal: Ash generated by the combustion process is removed from the boilers (i.e. bottom ash) and flue gases (i.e. fly ash) and disposed of as waste to an ash dump.

WHY UNDERTAKE AN ENVIRONMENTAL IMPACT ASSESSMENT?

Environmental Permitting Requirements

The development of the Mutsho Power Project triggers the need for a number of environmental permits, as follows:

- » **Environmental Authorisation (EA)** from the National Department of Environmental Affairs (DEA), in consultation with the Limpopo Department of Economic Development, Environment and Tourism (LDEDET), in accordance with the requirements of the National Environmental Management Act (No. 107 of 1998) (NEMA) and Environmental Impact Assessment (EIA) Regulations (GNR 326).
- » A **Waste Management License (WML)**, from the Department of Environmental Affairs for the storage, treatment and disposal of general and hazardous waste; in accordance with the National Environmental Management: Waste Act (No. 59 of 2008) (NEM:WA), and the List of Waste Management Activities (GNR 921).
- » An **Atmospheric Emission License (AEL)**, from the Limpopo Department of Economic Development, Environment and Tourism (LDEDET), in accordance with the National Environmental Management: Air Quality Act (No. 39 of 2004) (NEM:AQA), and List of Activities resulting in Atmospheric Emissions published in GNR 893.
- » A **Water Use License (WUL)**, from the Department of Water and Sanitation (DWS) in accordance with Section 21 of the National Water Act (No. 36 of 1998) (NWA), and the Regulations Regarding the Procedural Requirements for Water Use License Application and Appeals (GNR 267).

Mutsho Power (Pty) Ltd has appointed Savannah Environmental (Pty) Ltd as the independent Environmental Assessment Practitioners (EAPs) responsible for undertaking a full Scoping and Environmental Impact Assessment (S&EIA) process (including comprehensive, independent environmental studies) in accordance with NEMA and Regulations 21 to 24 of the 2014 EIA Regulations (GNR 326) in support of an integrated application for Environmental Authorisation (EA) and a Waste Management License (WML). The S&EIA process will also support future applications for an Atmospheric Emission License (AEL), and Water Use License (WUL) as required. It should be noted that the process of applying for a WUL can only be completed once Mutsho Power have been identified as a

preferred bidder under the CBIPPPP. Therefore while the need to apply for a WUL has been included in the Public Participation process being undertaken as part of the EIA process, the process of applying for this license will be undertaken following the conclusion of the next CBIPPPP bidding round.

WHAT ARE THE POTENTIAL ENVIRONMENTAL IMPACTS ASSOCIATED WITH THE PROPOSED PROJECT?

The following potential environmental impacts have been identified for the project at this stage in the process:

- » Impacts on air quality and human health.
- » Impacts on climate change.
- » Impacts on surface and groundwater resources.
- » Impacts on ecology including flora, fauna, avifauna and wetlands.
- » Impacts on heritage resources (i.e. archaeology and palaeontology).
- » Impacts on the socio-economic environment.
- » Impacts on agricultural potential, soil and land capability.
- » Noise impacts.
- » Visual impacts.
- » Traffic impacts.

Independent specialist studies will be undertaken to assess the abovementioned impacts; and the findings and recommendations thereof will be incorporated into the EIA. The EIA process will be conducted in accordance with the 2014 EIA Regulations (GNR 326), and will consist of two phases:

1. A desktop Scoping Study – Potential issues associated with the project (and all identified alternatives) will be identified, described, and evaluated.
2. A detailed Impact Assessment – Potentially significant impacts will be assessed based on detailed investigations and on-site field observations. Mitigation measures and recommendations to minimise potentially significant impacts will be identified and included in a site-specific Environmental Management Programme (EMPr).

PUBLIC PARTICIPATION PROCESS

The sharing of information forms the basis of the public participation process, and offers Interested and Affected Parties (I&APs) the opportunity to become involved in the EIA process. Comments and inputs are encouraged from I&APs during the Scoping and Impact Assessment phases to ensure that potential impacts are considered throughout the EIA. The public participation process aims to ensure that:

- » Information containing all relevant facts in respect of the application is made available to I&APs for review.
- » I&AP participation is facilitated such that they are provided with reasonable opportunity to comment on the proposed project.
- » Adequate review periods are provided for I&APs to comment on the findings of the Scoping and EIA Reports.

In order to ensure effective participation, the public participation process includes:

- » Identifying I&APs, including affected and adjacent landowners and occupiers, and relevant Organs of State.
- » Placing notices at the affected properties as well as in local newspapers.
- » Compiling and maintaining an I&AP database.
- » Distributing written notification of the commencement of the EIA process, as well as background information.
- » Notifying I&APs of relevant milestones throughout the EIA process.
- » Notifying I&APs of the release of the Scoping and EIA Reports for review.
- » Holding consultation meetings at various intervals within the process to provide an opportunity for I&APs to engage with the project team on the project.

- » Providing opportunities for I&APs to be formally engaged, allowing for full participation in the EIA process.

YOUR RESPONSIBILITIES AS AN I&AP

In terms of the 2014 EIA Regulations (GNR 326), your attention is drawn to your responsibilities as an I&AP:

- » In order to participate in the EIA process you must register yourself on the project database.
- » You must ensure that any comments regarding the proposed project are submitted within the stipulated timeframes.
- » You are required to disclose any direct business, financial, personal or other interest you may have in the approval or refusal of the application for the proposed project.

HOW TO BECOME INVOLVED

1. By responding by phone, fax, or e-mail, to the invitation for your involvement.
2. By returning the reply form to the relevant contact person.
3. By attending meetings to be held during the course of the 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 public review periods.

If you consider yourself an I&AP for this project, we urge you to make use of the opportunities created by the public participation process to provide comment, raise issues and concerns which affect and/or interest you, or request further information. Your input forms a key element of the EIA process.

By completing and submitting the accompanying reply form, you automatically register yourself as an I&AP for this project, and are ensured that your comments, concerns or queries raised regarding the project will be noted.

COMMENTS AND QUERIES

Direct all comments, queries or responses to:

Gabriele Stein of Savannah Environmental (Pty) Ltd

PO Box 148, Sunninghill, Johannesburg, 2157

E-mail: gabriele@savannahsa.com

Phone: 011 656 3237


Fax: 086 684 0547

To view project documentation, visit

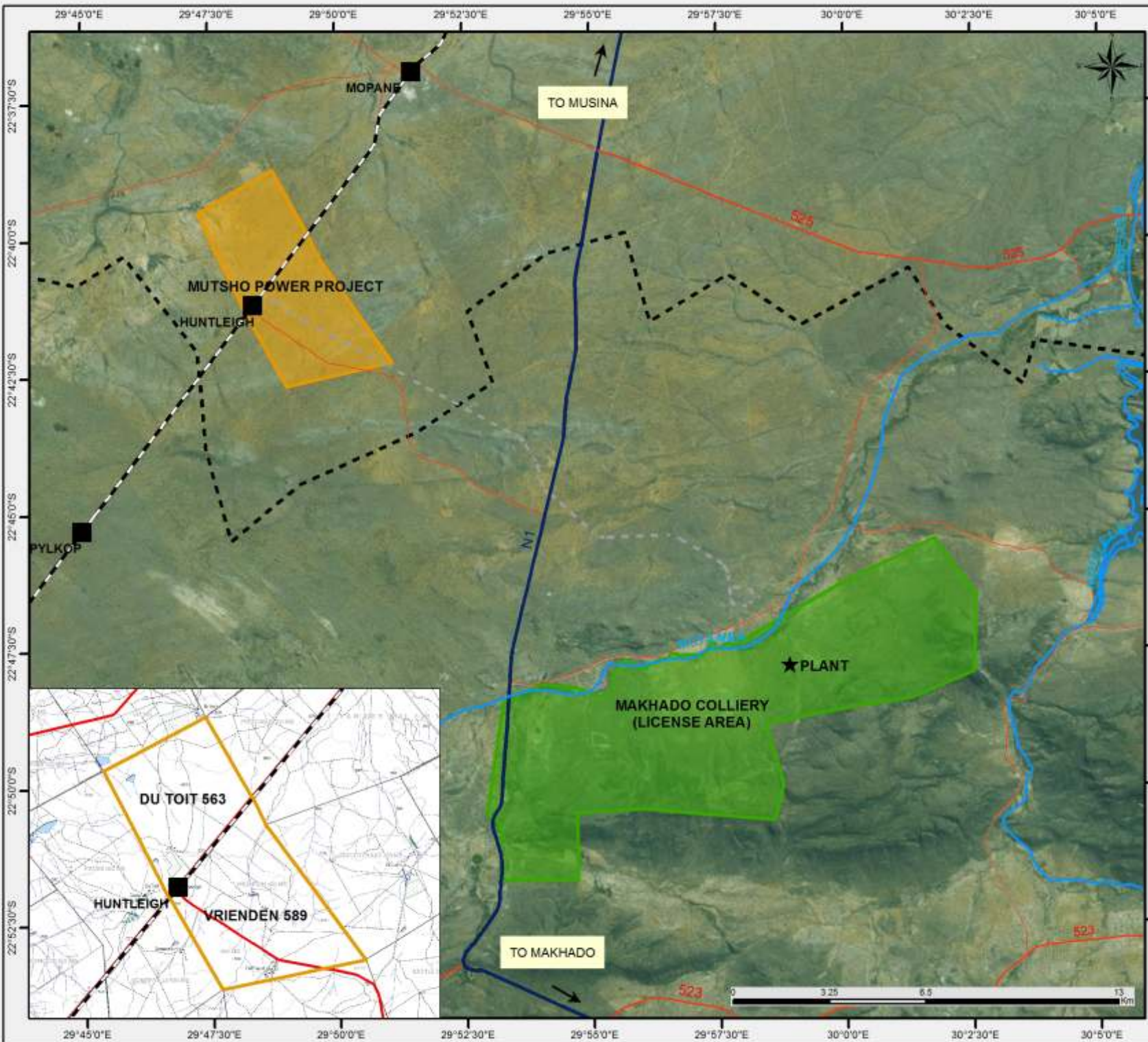
www.savannahSA.com

Mutsho Power Project Locality Map

Legend:

-  Mutsho Power Project
 -  Makhado Colliery
 -  Plant
 -  Municipal Boundary
 -  Railway Station
 -  Railway Line
 -  Proposed Rail Loop
- Roads**
-  National Route
 -  Main Road
 -  Secondary Road

Scale: 1:175 000
 Projection: LCR1_WGS 1984
 Map Ref.: Locality Map - 19.07.2017



FULWANA 2017

NDINGO DZI KWAMAHO MUPO,
LAISENSI YA U LANGA TSHIKA,
NA MAITELE A U SHELA MULEDZHE HA TSHITSHAVHA

MVELEDZISO YA
PHURODZHEKTHI YA MUḌAGASI YA MUTSHO
NA ZWIFHAṬO ZWAYO
TSINI NA MAKHADO (LOUIS TRICHARDT)

VUNḌUNI LA LIMPOPO

LIṆWALWA LA VHUBVO HA MAFHUNGO

savannah
environmental



Mutsho Power (Pty) Ltd i themendela u bveledzwa ha tshitiitshi tshiswa tsha muḡagasi tsha malasha khathihhi na zwifhaḡo kha saiti i re tsini na Makhado, Vunḡuni ḡa Limpopo. Phurodzhekthi i ḡo ḡivhiwa sa Mutsho Power Project. Phurodzhekthi yo itelwa u vhumba tshipiḡa tsha Coal Baseload Independent Power Producer (IPP) Procurement Programme (CBIPPPP) ya Muhasho wa Fulufulu. Nga zwenezwo Mutsho Power Project i ḡo vha na vhukoni ha u bveledza muḡagasi wa 600 MW, nahone u nga kha ḡi shumisa thekinolodzhi ya Pulverised Coal (PC) kana Circulating Fluidised Bed (CFB) u tendelana na ḡhoḡea dza Muhasho wa Fulufulu.

HEḲI ḲIḲWALWA ḲI NI VHUDZA MINI?

Tshipikwa tsha heḲi ḲiḲwalwa ndi u ḡea Mahoro a re na Dzangalelo na/kana a Kwameaho:

- » Vhubvo ha mafhungo ha phurodzhekthi ine ya khou themendelwa.
- » Manweledzo a Ndingo dzi Kwamaho Mupo (Environmental Impact Assessment) na maitela a u shela muledzhe ha tshitshavha a tshi itelwa phurodzhekthi.
- » Zwidodombedzwa zwa nḡila ine na nga shela muledzhe kha maitela a Ndingo dzi Kwamaho Vhupo, u wana mafhungo, kana u amba mafhungo, ane a nga vha a tshi ni vhilaedzisa na/kana u ni takadza.

MANWELEDZO A PHURODZHEKTHI INE YA KHOU THEMENDELWA

Fhethu:

Phurodzhekthi ine ya khou themendelwa ndi khilomithara dzi ḡoḡaho u vha 20 devhula-vhukovhela ha Mugodi wa malasha wa Makhado, kha Masipalawapo wa Musina, Tshitiirikini tsha Vhembe, kha Vunḡu ḡa Limpopo. Hu ḡoḡea fhethu huḡuku hu linganaho hekithara dza 600 u itela tshitiitshi tsha muḡagasi na zwifhaḡo. Naho zwishumiswa zwa u bveledza muḡagasi zwi tshi ḡoḡa hekithara dzi ḡoḡaho u vha 50, fhethu hune ha tikedza u bveledzwa ha malasha na u engedzea ha zwiḡwe zwiḡoko zwa zwishumiswa-mbisi, na ḡale-ḡale ḡa miḡora, zwi engedza fhethu ha mveledziso. Mufuda wa thekinolodzhi wo khethiwaho une wa ḡo shumiswa u ḡo ḡuḡuwedza zwine phurodzhekthi ya ḡo fheleledza i zwone na fhethu ha mveledziso (u fana na mavu ane a ḡoḡeaho u itela mveledziso).

Tshigwada tsha Mutsho, tshe tsha vha tsho humbula nga ha u i sa tshitiitshi tsha muḡagasi tsini na mugodi wa malasha u re Vele (vhuponi ha Mapungubwe hu ḡivhelwaho mavu a si avhuḡi), tsho wana zwifhaḡo zwivhili hu tshi shumiswa maitela o teaho a u khetha saiti zwine zwa vha na hekithara dzi fhiraho 135,000 devhula ha Soutpansberg sa zwine zwa nga shumiselwa phurodzhekthi ntswa ine ya khou themendelwa, nahone mavu a hone ndi avhuḡi, ndi:

Dzina ja bulasi:	Nomboro ya bulasi:	Khoudu ya Didzhithi Sg21:	Fhethu:
Du Toit	563	TOMS0000000056300000	924.5ha
Vrienden	589	TOMS0000000058900000	1 285.3ha

Hu na khonadzeo ya uri phurodzhekthi yo themendelwaho i nga bveledzwa yoḡhe kha iḡwe ya zwifhaḡo zwo bulwaho afho nḡha, kana zwipiḡa zwa phurodzhekthi zwa bveledzwa khazwo zwi zwivhili.

Phurodzhekthi i ḡo shumisa mugodi wa malasha wa Makhado, une wa ḡo bveledzwa khilomithara dzi ḡoḡaho u vha 20 tshipembe-vhubvaḡuvha ha saiti ya phurodzhekthi, u itela u bveledzisa mishumo yayo. Malasha a ḡo endedzwa kha saiti hu tshi shumiswa tshidimela tshiswa tsha khilomithara dza 22, tsho themendelwaho uri tshi bveledzwe vhukati ha Mugodi wa Malasha wa Makhado na tshiporo tsha tshidimela tshi re hone tsha Huntleigh, kana hu tshi shumiswa zwiendadzi zwa dzibada.

Zwishumiswa zwoḡhe zwi ḡo iswa kha saiti nga tshidimela kana nga tshindededzi tsha badani.

Ḳhanganelo yo ḡaluswaho nga vhuḡalo na u phaḡaladzwa ha maḡi zwi khou ḡolisiswa nga muita-khumbelo a tshi davhidzana na vhatu vha mulayo vho faneleaho nahone a yo ngo katelwa kha tshikoupu tsha zwino tsha mushumo. Hezwi zwi ḡo ḡoliwa kha khumbelo yo fhambanaho ya Mulayo.

NDI NGANI NI TSHI FANELA U SHELA MULEDZHE KHA NDIINGO I KWAMAHO VHUPO?

Ḳhoḡea dza Thendelo ya Mupo

U bveledzwa ha Mutsho Power Project zwo ita uri hu vhe na ḡhoḡea dzo vhalaho dza thendelo dza vhupo, nga nḡila i tevhelaho:

- » **Thendelo nga vha re Mulayoni** u bva kha Muhasho wa Lushaka wa zwa Mupo, u tshi haseledza na Muhasho wa Mveledziso ya Ikonomi, Mupo na Vhuendalamashango wa Limpopo, u tendelana na ḡhoḡea dza Mulayo wa u Langa Mupo wa Lushaka (No. 107 wa 1998) na Milayo ya Ndingo dzi Kwamaho Mupo (GNR 326)
- » **Ḳaisentsi ya u Langa Tshika**, u bva kha Muhasho wa zwa Mupo u itela u vhulunga, u langa na u laḡa tshika yo ḡowealeho na i re na khombo; u tendelana na Mulayo wa Lushaka wa u Langa Tshika (No. 59 wa 2008), na Mutevhe wa Zwithu wa u Langa Tshika (GNR 921).
- » **Ḳaisentsi ya u Fhalala ha Dzingamufhe**, u bva kha Muhasho wa Limpopo wa Mveledziso ya Ikonomi, Mupo na Vhuendalamashango, u tendelana na Ndangulo ya Mupo ya Lushaka: Mulayo wa



Muya (No. 39 wa 2004), na Mutevhe wa Zwithu zwi bveledzwaho kha u Fhalala ha Dzingamufhe wo gandiswaho kha GNR 893.

- » **Λaisentsi ya u Shumisa Mađi**, u bva kha Muhasho wa Mađi na Mabunga u tendelana na Tshiteŋwa 21 tsha Mulayo wa Mađi wa Lushaka (No. 36 wa 1998), Ndaela dza Malugana na Tŋođea dza Maitele dza u ita Khumbelo ya Λaisentsi ya u Shumisa Mađi na Dziaphiji (GNR 267).

Mutsho Power Company (Pty) Ltd yo khetha Savannah Environmental (Pty) Ltd sa Muđivhi wa Ndingo wa Mupo o ġiimelaho a re na vhuđifhinduleli ha u ita maitele oŋhe a u Tŋođisisa na Ndingo dzi Kwamaho Mupo (u katela ngudo dzo fhelelaho, dzo ġiimelaho dza mupo) u tendelana na Mulayo wa Lushaka wa u Langa Mupo na Ndaela 21 u swika kha 24 dza 2014 dza Ndaela dza Ndingo dzi Kwamaho Mupo (GNR 326) kha u tikedza khumbelo yo ŋanganelwaho ya Thendelo ya Mupo na Λaseintsu ya u Langa Tshika. Maitele a u Tŋođisisa na Ndingo dzi Kwamaho Mupo a ġo dovha a tikedza khumbelo dza tshifhingani tshi ġaho dza Λaseintsu dza u Fhalala ha Dzingamufhe, na Λaseintsu ya u Shumisa Mađi musi i tshi ŋođea. Tŋogomelani uri maitele a u ita khumbelo ya Λaseintsu ya u Shumisa Mađi i ġo ġadzwa musi Mutsho Power Company i tshi vho ġivhiwa sa ine ya takalelwa nga fhasi ha CBIPPPP. Naho zwo ralo, naho tŋođea ya u ita khumbelo ya Λaisentsi ya u Shumisa Mađi yo katelwa kha maitele a u Shela Muledzhe ha Lushaka hu tshi dzhiwa hu tshipiđa tsha maitele a Ndingo dzi Kwamaho Mupo, maitele a u ita khumbelo ya heyi Λaisentsi a ġo itwa hu tshi phethwa khumbelo i ġaho ya CBIPPPP.

NDI ZWITHU ZWIFHIO ZWINE ZWA NGA KWAMA MUPO ZWI TSHIMBIDZANAHO NA PHURODZHEKTHI YO THEMENDELWAHO?

Zwithu zwi tevhelaho zwine zwa nga kwama mupo zwine zwa ġivhiwa malugana na phurodzhekthi nga tshino tshifhinga:

- » U kwamea ha muya na mutakalo wa vthathu.
- » U kwamea ha tshanduko ya mutsho.
- » U kwamea ha zwishumiswa zwi re nnđa na zwi re mađini.
- » U kwamea ha mupo u katela zwimela, zwipuka, zwinoni na fhethu hu re na mavu o ġukalaho.
- » U kwamea ha zwishumiswa zwa vhufa (u fana na zwo fukulwaho mavuni na zwimela zwo fukulwaho).
- » U kwamea ha mupo siani ġa zwa ikonomi.
- » U kwamea ha vhukoni ha u lima, mavu na shango.
- » Phosho.
- » U sa vhoneala ha zwithu.
- » U tsitsikana ha zwiendedzi.

Ngudo dzo ġiimelaho dza vhađivhi dzi ġo ita ndingo dza zwithu zwi kwameaho zwo bulwaho afho nŋha; nahone mawanwa na mafhungo o themendelwaho heneffho a ġo katelwa kha Ndingo dzi Kwamaho Mupo. Maitele a Ndingo dzi Kwamaho Mupo a ġo farwa u tendelana na Dzindaela dza Ndingo dzi Kwamaho Mupo dza 2014 (GNR 326), nahone dzi ġo vha na masia mavhili:

1. Ngudo ya u Tŋolisisa – Zwithu zwine zwa nga itea zwi tshimbidzanaho na phurodzhekthi (na zwiŋwe zwivhanga zwoŋhe zwi ġivheaho) zwi ġo tŋogomelwa, zwa ŋaluswa na u tŋolisiswa.
2. Ndingo yo fhelelaho i Kwamaho Mupo – Zwithu zwine zwa nga itea zwi ġo tŋoliwa zwo thewa kha tsenguluso dzo itwaho nga vhuđalo na kha zwithu zwe zwa tŋogomelwa kha saiti. Maitele a u khwinisa na nyeletshedzo dza u fhungudza zwithu zwine zwa nga itea zwi ġo tŋogomelwa na u katelwa kha Mbekanyamushumo ya u Langa Mupo wa saiti.

MAITELE A U SHELA MULEDZHE HA TSHITSHAVHA

U ambedzana nga mafhungo zwi vhumba mutheo wa maitele a u shela muledzhe ha tshitshavha, nahone zwi ġea Mahoro a re na Dzangalelo na a Kwameaho tshibuli tsha u ġidzhenisa kha maitele a Ndingo dzi Kwamaho Mupo. Tŋhaluso na vhuđipfiwa zwi bvaho kha Mahoro a re na Dzangalelo na a Kwameaho tshifhingani tsha u Tŋođisisa na Ndingo dzi Kwamaho Mupo u itela u vha na vhungoho ha uri zwithu zwine zwa nga vha hone zwi a tŋolisiswa tshifhingani tsha maitele a Ndingo dzi Kwamaho Mupo. Tshipikwa tsha Maitele a u shela muledzhe ha tshitshavha ndi u vha na vhungoho ha uri:

- » Mafhungo a re na mbuno dza ndeme a malugana na khumbelo a a waniwa nga Mahoro a re na Dzangalelo na a Kwameaho uri a tŋoliswe.
- » U shela muledzhe ha Mahoro a re na Dzangalelo na a Kwameaho zwi thusa uri vha ġewa tshibuli tsha u amba vhuđipfiwa havho kha phurodzhekthi yo themendelwaho.
- » Tshifhinga tsho eđanaho tsha u tŋolisisa tsho ġewa Mahoro a re na Dzangalelo na a Kwameaho uri vha ambe vhuđipfiwa havho kha mawaniwa a Mivhigo ya u Tŋođisisa na Ndingo dzi Kwamaho Mupo.

U itela u vha na vhungoho ha u shela muledzhe hu bveledwaho, maitele a u shela muledzhe ha tshitshavha hu katela:

- » U ġivha Mahoro a re na Dzangalelo na a Kwameaho, u katela vhane vha kwamea na vha re tsini na vhaŋe vha shango na vhadzulapo, na Mirađo yo teaho ya Muvhuso.
- » U dzhenisa nothisi kha zwifhango zwi kwameaho na kha magurannđa a vhuponi.
- » U kuvhanganya na u vhlunga mafhungo a Mahoro a re na Dzangalelo na a Kwameaho kha dathabeisi.
- » U phađaladza nothisi dzo ŋwalwaho dza u thoma ha maitele a Ndingo dzi Kwamaho Mupo, u katela na mafhungo a vhubvo.
- » U ġivhadza Mahoro a re na Dzangalelo na a Kwameaho nga ha zwithu zwa ndeme zwo swikelelwo

nga maitela a Ndingo dzi Kwamaho Mupo.

- » U qivhadza Mahoro a re na Dzangalelo na a Kwameaho nga ha u bviswa ha Mivhigo ya u Tqodisisa na Ndingo dzi Kwamaho Mupo uri i tqolisiswe.
- » U vha na miřanganano nga zwifhinga zwo fhambanaho kha maitela a u űea Mahoro a re na Dzangalelo na a Kwameaho tshibuli tsha u haseledza na tshigwada tsha phurodzhekthi nga ha phurodzhekthi.
- » U űea Mahoro a re na Dzangalelo na a Kwameaho zwibuli zwa u řanganela nga ndila yo dzudzanyeaho, zwa ita uri hu řanganelwe tshořhe kha maitela a Ndingo dzi Kwamaho Mupo.

VHUĐIFHINDULELI HAűU SA MAHORO A RE NA DZANGALELO NA A KWAMEAHO

Malugana na Ndaela dza Ndingo dzi Kwamaho Mupo dza 2014 (GNR 326), livhisani řhogomelo yaűu kha vhuđifhindleli haűu sa űihoro űi re na Dzangalelo na űi Kwameaho:

- » U itela uri ni dzhenelele kha maitela a Ndingo dzi Kwamaho Mupo ni fanela u qinwalisa kha dathabeisi ya phurodzhekthi.
- » Ni fanela u vha na vhungoho ha uri mafhungo naho e afhio a malugana na phurodzhekthi yo themedelwaho a rumelwa nga tshifhinga tsho vhewaho.
- » Ndi zwa ndeme uri ni ambe nga ha mabindu naho e afhio ane na vha nao, masheleni, mafhungo aűu a vhuthu kana zwiűwe zwithu zwine na vha nazwo uri khumbelo ya phurodzhekthi yo themedelwaho i nga řanganedzwa kana u haniwa.

NDILA INE NA NGA SHELA NGAYO MULEDZHE

1. Nga u **aravha** nga luřingo, fekisi, kana imejji, musi ni tshi rambiwa uri ni shele muledzhe.
2. Nga u rumela **fomo ya u fhindula** kha muthu o teaho wa vhukwamani.
3. Nga u řa **miřanganoni** ine ya řo farwa tshifhinganani tsha maitela.
4. Nga u **kwama** vhaeletshedzi musi ni na dzimbudziso kana vhuđipfiwa.
5. Nga u **vusulusa na u řalusa** kha Mivhigo ya u Tqodisisa na Ndingo dzi Kwamaho Mupo tshifhinganani tsha mařuvha a 30 a u vsulusa ha tshitshavha.

Arali ni tshi qidzha ni kha űihoro űa a re na Dzangalelo na a Kwameaho, ri ni řuřuwedza uri ni shumise zwibuli zwo sikiwaho nga maitela a u shela muledzhe ha lushaka u itela u amba vhuđipfiwa haűu, u amba mafhungo na mbilaelo dzine dza ni kwama na/kana u ni takadza, kana u humbela mafhungo o engedzeaho. U shela haűu muledzhe zwi vhumba tshipiřa tsha ndeme tsha maitela a Ndingo dzi Kwamaho Mupo.

Nga u řadza na u rumela fomo i tshimbizdanaho nayo ya u fhindula, ni vha ni tshi khou qinwalisa sa Murařo u re na Dzangalelo na u Kwameaho wa phurodzhekthi heyi, nahone ni kwhařisedzwa uri vhuđipfiwa haűu, mbilaelo kana dzimbudziso dzine na vha nadzo dza malugana na phurodzhekthi dzi řo řhogomelwa.

řHALUSO NA DZIMBUDZISO

Rumelani vhuđipfiwa, dzimbudziso kana phindulo kha:

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U vha maűwalwa a phurodzhekthi, dalelalani

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Mutsho Power Project Locality Map

Legend:

-  Mutsho Power Project
 -  Makhado Colliery
 -  Plant
 -  Municipal Boundary
 -  Railway Station
 -  Railway Line
 -  Proposed Rail Loop
- ### Roads
-  National Route
 -  Main Road
 -  Secondary Road

Scale: 1:175 000
 Projection: LCR1_WGS 1984
 Map Ref.: Locality Map - 19.07.2017

