# ENVIRONMENTAL IMPACT ASSESSMENT – EIA PHASE

PROPOSED ESTABLISHMENT OF THE PUMPED STORAGE SCHEME AND ASSOCIATED INFRASTRUCTURE IN THE STEELPOORT AREA, LIMPOPO AND MPUMALANGA PROVINCES

## FINAL MINUTES OF THE FOCUS GROUP MEETING WITH

## STEELPOORT FARMERS

**HELD ON**
**WEDNESDAY 16 MAY 2007**
**AT 11H00**
**AT**
**MAPOCH RECREATIONAL CLUB, ROOSSENEKAL**

Eskom

BOHLWEKI

# ENQUIRIES

***Public Participation Process***

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***Environmental Impact Assessment***

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## YOUR COMMENTS

Your comments on this document would be greatly appreciated. In particular, we request you to verify that your comments during the meeting have been minuted correctly. Please address your written comments to Sibongile Gumbi at the address given above by not later than 4 July 2007. Please note however that the minutes are not verbatim.

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## APPENDICES

**MINUTES OF THE PRESENTATION**
**WEDNESDAY, 16 MAY 2007**
**MAPOCH RECREATIONAL CENTRE, ROOSSENEKAL**
**11H00**

**THE STRUCTURE OF THE MINUTES FOLLOWS THAT OF THE PRESENTATION**

## 1. PURPOSE OF TODAY'S MEETING

- Provide Interested and Affected Parties (I&APs) and Key Stakeholders with information regarding the proposed Steelpoort Pumped-Storage Scheme (SPSS)
- Provide an overview of the Environmental Impact Assessment (EIA) & Public Participation Process (PPP) being followed for the proposed project
- Provide an opportunity for key stakeholders and I&APs to seek clarity and provide input into the project
- To record comments raised and include them in the final EIA Report
- Interaction with the project team

## 2. RATIONALE AND BACKGROUND TO THE PROPOSED PROJECT

- Eskom's electricity generation capacity expansion was based on national policy and informed by on-going strategic planning undertaken by National Department of Minerals and Energy (DME), the National Energy Regulator of South Africa (NERSA) and Eskom.
- Integrated Strategic Electricity Planning (ISEP) identified the need for increased peaking supply by about 2006/7 and base load by about 2010.
- One way of achieving this is via pumped storage technology. The Braamhoek Scheme in the Drakensberg is one such scheme.
- The function of a pumped storage scheme (PSS) is to supply power during the time of peak demands and to 'store' surplus power during off-peak periods, which will be utilized later.

## 3. PUMPED STORAGE TECHNOLOGY

- Typical PSS scheme consists of:
- Upper and lower reservoir
- Underground powerhouse complex
- Associated waterways linking reservoirs; and
- Associated infrastructure roads, transmission lines, admin building, visitors centre and link yard

## 4. ENVIRONMENTAL STUDY REQUIREMENTS

Application has been made under the new EIA Regulations.
The primary triggers are (according to R386 and R387):

- The construction of facilities or infrastructure, including associated structures or infrastructure, for:
- 1(a) the generation of electricity where –
- the electricity output is 20 megawatts or more; or
- the elements of the facility cover a combined area in excess of 1 hectare.
- 1(g) The use, recycling, handling, treatment, storage or final disposal of hazardous waste;
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- Any development activity, including associated structures and infrastructure, where the total area of the developed area is, or is intended to be, 20 hectares or more;
- The construction of a dam where the highest part of the dam wall, as measured from the outside toe of the wall to the highest part of the wall, is 5 metres or higher or where the high water mark of the dam covers an area of 10 hectares or more; and
- The construction of masts of any material or type of any height, including those used for telecommunication broadcasting and also transmission.

## 5. EIA PROCESS FOR THE PROJECT

- Phase 1: Environmental Scoping Study (ESS) including Screening Studies
- Phase 2: Environmental Impact Assessment (EIA)
- Phase 3: Environmental Management Plan (EMP)
- Public Participation Process – Ongoing throughout the EIA Process

## 6. WHY ARE ENVIRONMENTAL STUDIES NEEDED

- Identify and assess potential environmental impacts (biophysical & social)
- Propose mitigation & management measures
- Authorization from the National Department of Environmental Affairs and Tourism (N DEAT)
- Inform project planning process

## 7. EIA PROCESS TO DATE

- EIA Process
- Application
- Environmental Scoping Study
- Plan of Study for EIA
- Environmental Impact Assessment
- Record of Decision

## 8. PUBLIC PARTICIPATION PROCESS

- What is PPP?
  - A tool to inform I&APs of a proposed project
  - A tool to help integrate the comments of the I&APs into the relevant phases of a proposed project
- What PPP is Not?
  - Not a Public Relations exercise
  - Not a means to satisfy grievances – rather to record comments

### 8.1 PUBLIC PARTICIPATION PROCESS TO DATE

- Approval of Final Scoping Report and Plan of Study for EIA
- Draft Environmental Impact Report for Public Review
- Focus Group Meetings
- Public Meetings
- Notify I&APs of Record of Decision

## 9. SITES INVESTIGATED

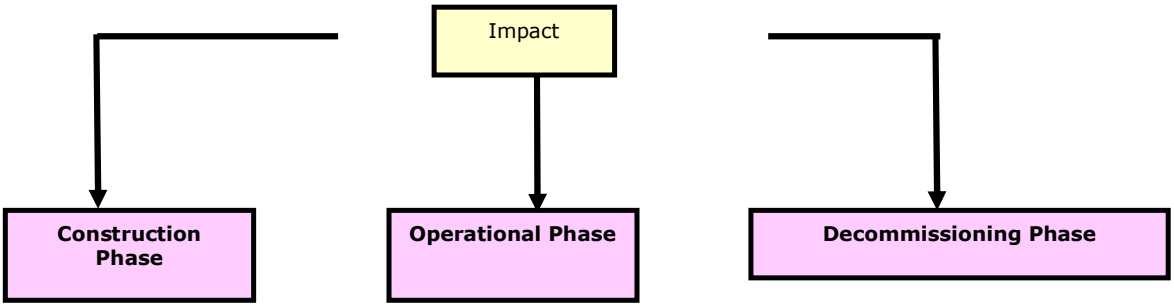
- Three alternative sites were investigated during the ESS
- The ESS has nominated a preferred site for further detailed investigation in the EIA phase

## 10. AIMS OF THE SCOPING PHASE

- Identified & evaluated potentially significant environmental impacts (both positive and negative impacts)
- Validate Environmental Screening Report
- Evaluate site alternatives.
- Public Participation
  - Inform the public of the proposed project
  - Opportunity to raise concerns about and provide input into the project
- Nomination of a preferred site (Site A) for further investigation in the EIA phase
- (environmental, economic and technical issues account).
- Make recommendations regarding studies required within the detailed EIA

## 11. AIMS OF EIA PHASE

- Rating of Significant Impacts
- Public Participation
- EIA consider the impacts throughout the entire project life cycle e.g.




- Recommendations regarding mitigation and management of significant impacts
- Draft Environmental Management Plan

## 12. ASPECTS CONSIDERED IN THE EIA

- Biophysical Aspects
  - Geology
  - Soils and Agricultural potential
  - Geohydrology
  - Surface Water and drainage
  - Wetlands
  - Biodiversity

- Social Aspects
  - Archaeology and Heritage
  - Visual
  - Noise
  - Social
  - Traffic
  - Tourism

## ASSESSMENT OF IMPACTS

- **GEOLOGY**

- Very good rock conditions for underground works
- Construction materials available within the dam basin
- Clay material for the lower dam core is available in close proximity
- Steelpoort Fault does not impact the site
- No fatal flaws were discovered
- Further investigations will be required

- **SOIL AND AGRICULTURAL POTENTIAL**

- Reservoir sites consist of shallow soils with deeper alluvial soils
- No areas with high agricultural potential occur within reservoir sites
- Additional Roads are already existing routes
- Impacts on soils and agricultural potential is low
- Construction villages & temporary developments – land rehabilitated

- **GEOHYDROLOGY (GROUND WATER)**

- Study area is classified as minor-aquifer system due to rock complex
- Therefore no large scale groundwater abstraction occurs
- Intercepting water bearing fractures considered as a short-term negative impact
- Grouting these structures will prevent long-term impacts
- The medium negative impact will be reduced to a very low negative impact with appropriate mitigation

- **SURFACE WATER AND DRAINAGE**

- The study has found no fatal flaws
- Negative impacts –construction
- Burrowing, housing, sewage, and water abstraction
- Impacts are localised
- Impacts can all successfully be mitigated
- The high negative impact can be reduced to a medium negative impact with appropriate mitigation

- **WETLANDS**

- No wetlands occur within the footprint
- Therefore no loss of physical wetland habitat
- Indirect positive benefit on wetlands in the upper catchment, Sehlakwane
- If wetlands and associated buffers are not affected the impact will be very low

- **BIODIVERSITY**

- Impacts - transformation of large tracts of natural and sensitive environment
- Although cannot be mitigated effectively
- Impacts -localised and site specific & contained within a relatively small area.
- Constant environmental monitoring
- Periodic bio-monitoring - invasive species
- Appropriate mitigation measures reduce high negative impact - low medium impact

- **ARCHAEOLOGICAL & HERITAGE**

- Sites dating to the Late Iron Age, Early Historic Period were identified
- Current legislation allows for mitigation measures
- Impacts lessened by:
    - Rerouting/relocating of access routes, construction yards, etc.
    - Formalising sites by fencing them off
    - Excavation and mapping of sites
- Development can continue, if the mitigation measures for each identified site are implemented

- **VISUAL**
- The escarpment-like topography- very high visual quality
- The visual impact adverse, the significance very high-medium
    - Localised and associated with proximity to the site
- Lighting - important visual impact (construction)
    - Design specific mitigation measures
- Visual impacts associated with the project are unavoidable, No fatal flaw
- Appropriate mitigation measures reduce high negative impact - medium negative impact

- **NOISE**

- Acceptable construction related noise impacts are expected
- Operational noise impact - fairly small
- Any impacts - contained within 300m of the PSS
- No operational noise impacts at Sehlakwane Village
- Additional noise from traffic will be insignificant
- Supported from a noise perspective

- **SOCIAL**

- Operational & Construction phases have positive impacts
- These relate to sustainable development-
    - employment opportunities (directly and indirectly)
    - infrastructure development
- Enhanced direct employment opportunities
    - transparent recruitment process
    - enable all unskilled labour to have an equal opportunity of employment
- Negative impacts - construction/decommissioning phases
- Negative impacts can be mitigated successfully
- Intra-conflict
    - Forum meetings contractors & construction workers - address issues and concerns pro-actively

  - Consider the use of a uniformed salary structure whilst construction workers are on site
- Inter-conflict:
  - Transparent recruitment process takes place
  - Local trade unions, to enhance the recruitment process
- Construction villages location is appropriate
- Increased social problems (construction site) controlled:
  - HIV/AIDS awareness campaign
  - Controlled Access
- Safety hazards of water- PSS fenced and access controlled
- Local economic investment - use of the local facilities
- Sustainable local economic development
  - Enhance the positive impact by encouraging installation employees to make use of and employ local community members in their households
- The positive impacts of the project outweigh the negative social impacts

- **TRAFFIC**

- Transport of components, the construction traffic and operational traffic - medium negative impact.
- Medium impact a low weighting
- Benefits far outweigh the considered Low impact of the transport/traffic
- Supported from a traffic and transport perspective
- Mitigation measures reduce the overall impact to a Low Medium negative impact

- **TOURISM**

- Negative impacts: to loss of sense of place-
  - construction
  - lesser extent -operational phase.
- Greatest negative impact on - game reserves construction camp and the construction traffic
- Overall impact- positive during construction and operation - increased business tourism

## 13. OVERALL CONCLUSION AND RECOMMENDATIONS

- Positive and negative impacts were identified
- No environmental fatal flaws were identified
- Supported from an Environmental perspective
- All impacts can be adequately mitigated
- An Environmental Management Plan (EMP) has been compiled and released for public review
- EMP details mitigation and management measures - environmental issues during construction and operation

| POTENTIAL IMPACT | SIGNIFICANCE | SIGNIFICANCE After Mitigation | STATUS |
|---|---|---|---|
| Geology | **Low** | **Negligible** | **Negative** |
| Soils and Agricultural Potential | **Low** | **Negligible** | **Negative** |
| Geohydrology | **Low** | **Low** | **Negative** |
| Surface Water and Drainage | **Medium** | **Low** | **Negative** |
| Wetlands | **Low** | **Low** | **Negative** |
| Biodiversity | **High** | **Medium/Low** | **Negative** |
| Archaeological and Heritage | **High** | **High** | **Negative** |
| Visual/Aesthetic | **High** | **Medium** | **Negative** |
| Noise | **Medium** | **Low** | **Negative** |
| Socio-economic | **Medium** | **Low** | **Negative** |
| Traffic | **Medium** | **Low/Medium** | **Negative** |
| Tourism | **Low** | **Low** | **Negative** |
| Geohydrology | **Low Negative** | **Medium Positive** | **Positive** |
| Surface Water and Drainage | **Medium** | **Low** | **Negative** |
| Wetlands | **Medium** | **Low** | **Negative** |
| Visual/Aesthetic | **High** | **Medium** | **Negative** |
| Noise | **Medium** | **Low** | **Negative** |
| Social | **Low** | **Medium Positive** | **Positive** |
| Traffic | **Medium** | **Low** | **Negative** |
| Tourism | **Negligible** | **Low** | **Positive** |

## 14. THE WAY FORWARD

- Compilation and distribution of minutes
- Inclusion of I&AP comments in Final Environmental Impact Report
- Submission of Final Environmental Impact Report to National & Provincial Authorities
- Authority review
- Environmental Authorisation
- Notify I&APs of Decision
- Appeal Period

**15. DISCUSSION SESSION**

*1. Mr. Marius Botha, Land Owner,* wanted to know about the whole process regarding the power station, tunnelling of the area, transmission power lines and the water pipelines. He mentioned that Eskom should be transparent as there is some information hidden from the communities. Essentially he wanted to know if there is a presentation with all the infrastructure to transact their land.
*Mr. Thigesh Velen, Eskom Enterprises Engineering Dept,* informed the meeting that Eskom Generation was still involved in the EIA process for the proposed pumped-storage project, exclusive of DWAF's proposed pipeline and Eskom's Transmission powerlines. Both DWAF and Eskom Transmission have not commenced their EIA processes, and are expected to do this soon. All I&APs will be invited to comment of the proposals and the EIA processes made by DWAF and Eskom Transmission.

*2. Mr. Swart,* informed the meeting that he has got the plans showing the channelling of the pipelines and Transmission power lines on the area, from DWAF.
*Mr. Tony Stott, Eskom Generation,* commented that the plans in Mr Swart's possession could be correct for DWAF's pipelines (although Eskom's knowledge is that DWAF does not have possible routes at this stage). He also informed the meeting that the Transmission power lines are Eskom's responsibility, which currently has not finalised line routes.[Post meeting note: The Transmission EIA process has just commenced]
*Mrs Deidre Herbst, Eskom Generation,* added it would be better to have a diagram/plan showing all the land transacting activities to landowners, and *Mr Tony Stott* agreed that was a fair comment.

*3. Mr. Swart,* commented that there was a plan of turning the whole area into a big nature reserve, but to their surprise, water pipelines, transmission power lines, railway lines, etc. are tearing the land into pieces.
*Mrs. Deidre Herbst, Eskom Generation,* advised the meeting that it was difficult to determine the direction of power lines until the power station's position has been determined. Once a decision has been reached, the affected parties will be informed.

*4. Mr. Marius Botha,* informed the meeting that he has been involved with the process of the proposed De Hoop Dam. Beautiful presentations were done and promises were made but nothing so far had been adhered to. He informed the meeting that he is very negative about all these developments taking place especially the dam and pipelines.
*Mrs. Kelly Tucker, Bohlweki Environmental,* assured the meeting that while this may be the case with the De Hoop process, it is a responsibility for Eskom to work in accordance with the findings and recommendations of the EIA. Furthermore, Eskom's compliance to the responsibilities would be monitored by the authorities.
*Mrs Deidre Herbst, Eskom Generation,* advised the meeting that, without sounding defensive, in the OCGT power station in the Cape, Eskom is following what is expected of them and they even go back to the communities to establish if they were satisfied. Eskom is working hand in hand with the surrounding communities in that area.

*5. Mr. Marius Botha,* informed the meeting that cattle farmers were promised better land / kraals for their cattle but now they are messed up.
*Ms. Erna Struwig, Eskom Generation,* responded that Eskom will take time to engage the individuals, look at individual needs of the community and address them accordingly.

*6. Mr. Marius Botha,* wanted to know where exactly would the power station be erected.
*Mr. Thigesh Velen, Eskom Enterprises Engineering Dept* informed the meeting that it would be on portion 5 of Luipershoek 149-JS, adjacent to the dam.

*7. Mr. Marius Botha*, raised a concern about blasting during construction.
*Mr. Thigesh Velen, Eskom Enterprises Engineering Dept,* responded that blasting will take place during the construction phase, and the community will be notified of blasting times in advance. The noise due to blasting will progressively reduce as the construction of the tunnel advanced.

*8. Mr. Berry* enquired about the location of the construction camps.
*Mr. Thigesh Velen, Eskom Enterprises Engineering Dept,* responded that construction camps will be constructed at both the upper and lower reservoir areas (on portions 5 and 7 of Luipershoek 149-JS).

*9. Mr. Berry* enquired about what would happen to the people living below the dam wall.
*Mr. Thigesh Velen, Eskom Enterprises Engineering Dept,* informed the meeting that about 17 families have been identified as occupying the area below the lower dam wall. A social study would be undertaken to advise the best manner to manage these families and their issues. The study will advise or make recommendations that will ensure that affected people are equal or better than their current living conditions.

*10. Mr Niek Gouws* informed the meeting that he has contracted a piece of farm land for a period of 6 years. He wanted to know if there would be somebody to consult with him because he has seen people drilling holes within the rented area and he has never been consulted. He also questioned why the power station could not be built on "Site C" which was selected as one of the options during Scoping phase since it would be next to the dam for water supply.
*Mr. Thigesh Velen, Eskom Enterprises Engineering Dept,* responded saying all farm owners were informed of the geotechnical drilling on the respective farms.
Due to Steelpoort faults and high water level variations in the De Hoop Dam, Site C was found to be technically unfavourable. The water level variation does not allow for optimal performance of the machinery. An arrangement has been made with DWAF to take the responsibility of supplying water to the lower reservoir.
*Mrs Erna Struwig, Eskom Generation,* informed the meeting that Eskom would look at existing infrastructure and consider compensation, if necessary.

*11. Mr. Berry,* raised a concern about water shortage in the area. He wanted to know if Eskom would impact on their boreholes because most farmers were using boreholes to draw water for irrigation and for domestic use.

*Mr. Thigesh Velen, Eskom Enterprises Engineering Dept,* responded that the PSS would obtain water from the De Hoop Dam and that there would be no impact on boreholes.

**16. CLOSURE**

Without any further issues being raised, Mrs. Kelly Tucker thanked everyone for their attendance and contributions.

The meeting was concluded at 12H30

**APPENDIX A**

**ATTENDANCE RECORD**

## STEELPOORT FARMERS' ATTENDANCE REGISTER: FGM 16 MAY 2007

| Name | Company |
|---|---|
| Berry, Theunis | |
| Bokwe, Tobile | Eskom Generation |
| Botha, Marius | Stoffberg Boere Vereniging |
| Du Toit, FH | Kwalata |
| Gouws, Niek | Steynsdrift |
| Grobler, W. | CCT: Steynsdrift |
| Grobler, W. | CCT: Steynsdrift |
| Gumbi, Sibongile | BOHLWEKI ENVIRONMENTAL |
| Herbst, Deidre | Eskom Generation |
| Jones, Gerda | Vosrus Gastehuis |
| Joubert, P. | Luiperdshoek |
| Joubert, P. | Luiperdshoek |
| Magangane , Gift | Bohlweki Environmental |
| Mapulane , Frans | Eskom Enterprise |
| Martin , Kelly | Bohlweki Environmental |
| Stott, Tony | Eskom Generation |
| Swart, Louis | CCT Steynsdrift |
| Swart, Louis | CCT: Steynsdrift |
| Tshehla, John | |
| Tshela, John | Tshehla Trust |
| Velen, Thigesh | Eskom Generation |

Totals:

**APPENDIX B**

**TECHNICAL PRESENTATION**

**Kelly Tucker**

Environmental Engineers & Consultants

**ENVIRONMENTAL IMPACT ASSESSMENT PROCESS:**

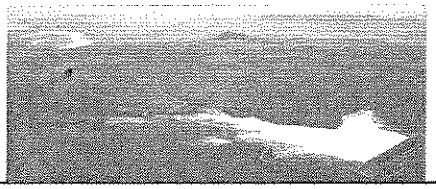
**PROPOSED STEELPOORT PUMPED STORAGE SCHEME IN LIMPOPO AND MPUMALANGA PROVINCES**

## AGENDA

1. Welcome, Apologies & Introduction
2. Conduct of the Meeting
3. Purpose of the Meeting
4. Background/Rationale to the proposed project
5. Technical Presentation
6. Environmental Impact Assessment (EIA) Process
7. Public Participation Process
8. Discussion Session
9. The Way Forward

## CONDUCT OF THE MEETING

- Language of choice
- Work through facilitator
- Focus on issues
- Equal participation from all parties
- Identify yourselves prior to question -for minute taking purposes
- Please wait until the discussion session to ask questions



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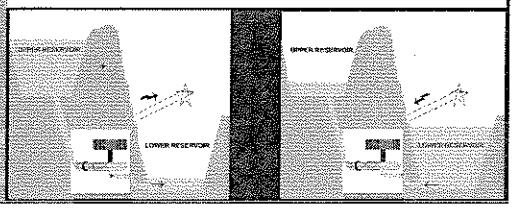
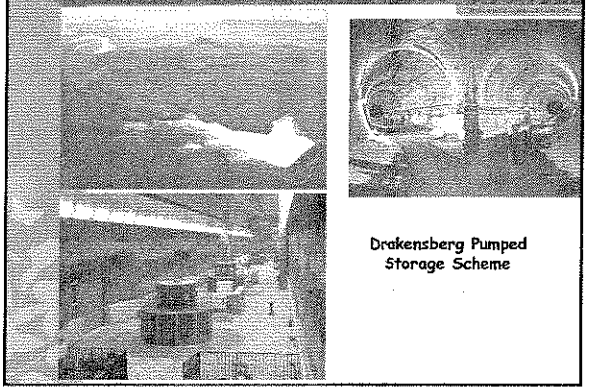


## PUMPED STORAGE TECHNOLOGY



Drakensberg Pumped Storage Scheme

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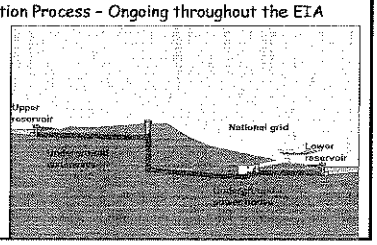


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- Identify and assess potential environmental impacts (biophysical & social)
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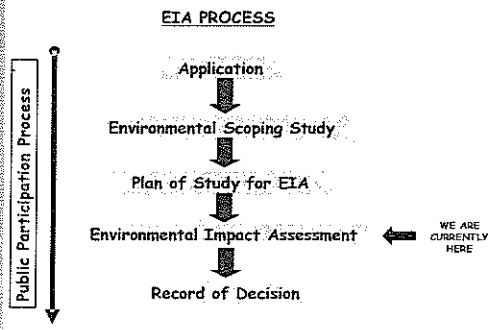

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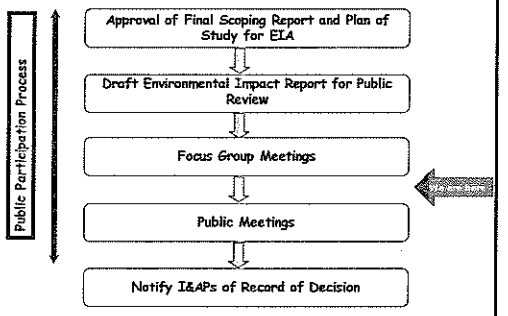


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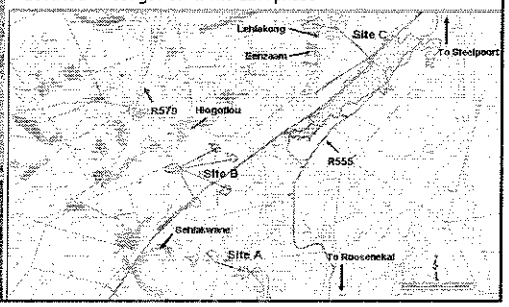
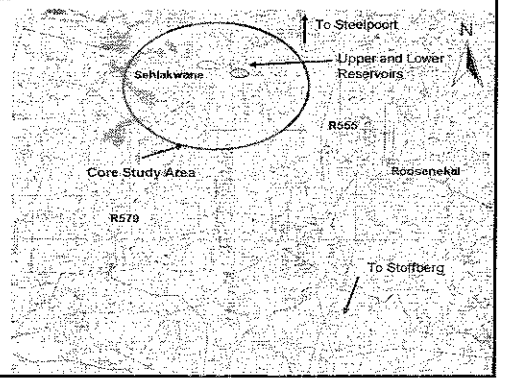



## PREFERRED SITE

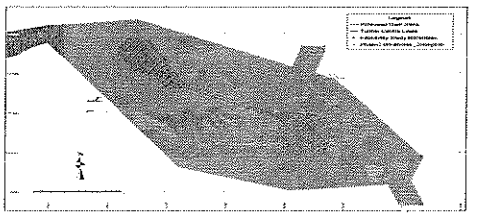



## AIMS OF SCOPING PHASE

- Identified & evaluated potentially significant environmental impacts (both positive and negative impacts)
- Validate Environmental Screening Report
- Evaluate site alternatives.
- Public Participation
  - Inform the public of the proposed project
  - Opportunity to raise concerns about and provide input into the project

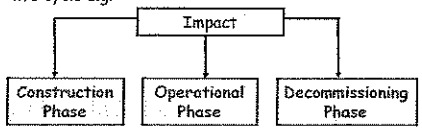
## AIMS OF SCOPING PHASE

- Nomination of a preferred site (Site A) for further investigation in the EIA phase
  (environmental, economic and technical issues account).
- Make recommendations regarding studies required within the detailed EIA.



## AIMS OF EIA PHASE

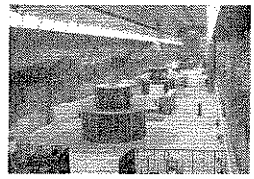
- Rating of Significant Impacts
- Public Participation
- EIA consider the impacts throughout the entire project life cycle e.g.:




- Recommendations regarding mitigation and management of significant impacts
- Draft Environmental Management Plan

## ASPECTS CONSIDERED IN THE EIA

- Biophysical Aspects
  - Geology
  - Soils and Agricultural potential
  - Geohydrology
  - Surface Water and drainage
  - Wetlands
  - Biodiversity
- Social Aspects
  - Archaeology and Heritage
  - Visual
  - Noise
  - Social
  - Traffic
  - Tourism



## ASSESSMENT OF IMPACTS Geology

- Very good rock conditions for underground works.
- Construction materials available within the dam basin.
- Clay material for the lower dam core is available in close proximity.
- Steelpoort Fault does not impact the site.
- No fatal flaws were discovered
- Further investigations will be required

## ASSESSMENT OF IMPACTS Soils & Agricultural Potential

- Reservoir sites consist of shallow soils with deeper alluvial soils.
- No areas with high agricultural potential occur within reservoir sites.
- Additional Roads are already existing routes
- Impacts on soils and agricultural potential is low
- Construction villages & temporary developments – land rehabilitated.

## ASSESSMENT OF IMPACTS Geohydrology (Ground Water)

- Study area is classified as minor-aquifer system due to rock complex.
- Therefore no large scale groundwater abstraction occurs.
- Intercepting water bearing fractures considered as a short-term negative impact
- Grouting these structures will prevent long-term impacts.
- The medium negative impact will be reduced to a very low negative impact with appropriate mitigation.

## ASSESSMENT OF IMPACTS Surface Water & Drainage

- The study has found no fatal flaws
- Negative impacts -construction burrowing, housing, sewage, and water abstraction),
- Impacts are localised.
- Impacts can all successfully be mitigated,
- The high negative impact can be reduced to a medium negative impact with appropriate mitigation

## ASSESSMENT OF IMPACTS Wetland

- No wetlands occur within the footprint
- Therefore no loss of physical wetland habitat
- Indirect positive benefit on wetlands in the upper catchment, Sehlakwane.
- If wetlands and associated buffers are not affected the impact will be very low.

## ASSESSMENT OF IMPACTS Biodiversity

- Impacts - transformation of large tracts of natural and sensitive environment
- Although cannot be mitigated effectively, impacts -localised and site specific & contained within a relatively small area.
- Constant environmental monitoring
- Periodic bio-monitoring - invasive species.
- Appropriate mitigation measures reduce high negative impact - low medium impact

## ASSESSMENT OF IMPACTS Archaeological and Heritage

- Sites dating to the Late Iron Age, Early Historic Period were identified
- Current legislation allows for mitigation measures.
- Impacts lessened by:
  - Rerouting/relocating of access routes, construction yards, etc.
  - Formalising sites by fencing them off
  - Excavation and mapping of sites.
- Development can continue, if the mitigation measures for each identified site are implemented

## ASSESSMENT OF IMPACTS Visual

- The escarpment-like topography- very high visual quality.
- The visual impact adverse, the significance very high-medium.
  - localised and associated with proximity to the site.
- Lighting - important visual impact (construction)
  - Design specific mitigation measures.
- Visual impacts associated with the project are unavoidable, No fatal flaw
- Appropriate mitigation measures reduce high negative impact - medium negative impact.

## ASSESSMENT OF IMPACTS Noise

- Acceptable construction related noise impacts are expected.
- Operational noise impact - fairly small.
- Any impacts - contained within 300m of the PSS.
- No operational noise impacts at Sehlakwane Village.
- Additional noise from traffic will be insignificant.
- Supported from a noise perspective.

## ASSESSMENT OF IMPACTS Social

Operational & Construction phases have positive impacts,

- These relate to sustainable development-
  - employment opportunities (directly and indirectly)
  - infrastructure development.
- Enhanced direct employment opportunities
  - transparent recruitment process.
  - enable all unskilled labour to have an equal opportunity of employment
- Negative impacts - construction/decommissioning phases.
- Negative impacts can be mitigated successfully.

## ASSESSMENT OF IMPACTS
### Social cont...

- Intra-conflict
  - Forum meetings contractors & construction workers- address issues and concerns pro-actively.
  - Consider the use of a uniformed salary structure whilst construction workers are on site.
- Inter-conflict:
  - Transparent recruitment process takes place.
  - Local trade unions, to enhance the recruitment process.
- Construction villages location is appropriate
- Increased social problems (construction site) controlled:
  - HIV/AIDS awareness campaign
  - Controlled Access

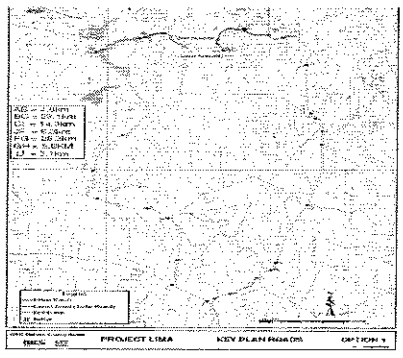
## ASSESSMENT OF IMPACTS
### Social cont

- Safety hazards of water- PSS fenced and access controlled
- Local economic investment - use of the local facilities
- Sustainable local economic development
  - Enhance the positive impact by encouraging installation employees to make use of and employ local community members in their households
- The positive impacts of the project outweigh the negative social impacts

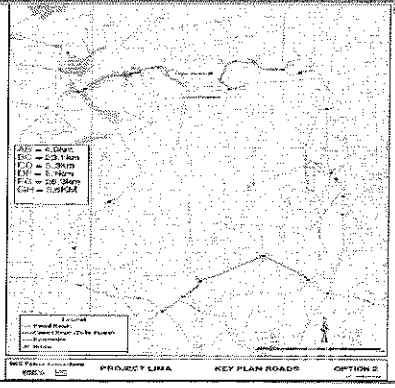
## ASSESSMENT OF IMPACTS
### Traffic

- Transport of components, the construction traffic and operational traffic - medium negative impact.
- Medium impact a low weighting.
- Benefits far outweigh the considered Low impact of the transport/traffic.
- Supported from a traffic and transport perspective.
- Mitigation measures reduce the overall impact to a Low Medium negative impact

## ROAD ALTERNATIVES




## ROAD ALTERNATIVES




## ASSESSMENT OF IMPACTS
### Tourism

- Negative impacts: to loss of sense of place- construction
  lesser extent -operational phase.
- Greatest negative impact on - game reserves construction camp and the construction traffic.
- Overall impact- positive during construction and operation - increased business tourism

## OVERALL CONCLUSIONS AND RECOMMENDATIONS

- Positive and negative impacts were identified
- No environmental fatal flaws were identified
- Supported from an Environmental perspective.
- All impacts can be adequately mitigated.
- An Environmental Management Plan (EMP) has been compiled and released for public review
- EMP details mitigation and management measures - environmental issues during construction and operation.

## ASSESSMENT OF IMPACTS Construction

| POTENTIAL IMPACT | SIGNIFICANCE | SIGNIFICANCE After Mitigation | STATUS |
|---|---|---|---|
| Geology | Low | Negligible | Negative |
| Soils and Agricultural Potential | Low | Negligible | Negative |
| Geohydrology | Low | Low | Negative |
| Surface Water and Drainage | Medium | Low | Negative |
| Wetlands | Low | Low | Negative |
| Biodiversity | High | Medium/Low | Negative |
| Archaeological and Heritage | High | High | Negative |
| Visual/Aesthetic | High | Medium | Negative |
| Noise | Medium | Low | Negative |
| Socio-economic | Medium | Low | Negative |
| Traffic | Medium | Low/Medium | Negative |
| Tourism | Low | Low | Negative |

## ASSESSMENT OF IMPACTS Operational

| POTENTIAL IMPACT | SIGNIFICANCE | SIGNIFICANCE After Mitigation | STATUS |
|---|---|---|---|
| Geohydrology | Low Negative | Medium Positive | Positive |
| Surface Water and Drainage | Medium | Low | Negative |
| Wetlands | Medium | Low | Negative |
| Visual/Aesthetic | High | Medium | Negative |
| Noise | Medium | Low | Negative |
| Social | Low | Medium Positive | Positive |
| Traffic | Medium | Low | Negative |
| Tourism | Negligible | Low | Positive |

## WAY FORWARD

- Compilation and distribution of minutes
- Inclusion of I&AP comments in Final Environmental Impact Report
- Submission of Final Environmental Impact Report to National & Provincial Authorities
- Authority review
- Environmental Authorisation
- Notify I&APs of Decision
- Appeal Period

## Thank You.

Environmental Engineers & Consultants

## Discussion Session

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