



Heritage Scoping Report

Proposed Newcastle Gas Engine Power Plant Newcastle Local Municipality (KZN252), Amajuba DM, KwaZulu-Natal

Project Area and Project Description¹

Newcastle Energy (Pty) Ltd. (Newcastle Energy), a subsidiary of Vutomi Energy (Pty) Ltd. (Vutomi), own an 18.5-megawatt (MW) capacity gas fired cogeneration (steam and power) plant within the Karbochem Industrial Complex in Newcastle, KwaZulu-Natal. (See Figure 1). Through the Newcastle Gas Engine Power Plant (NGEPP) Independent Power Producer (IPP) project, Newcastle Energy proposes to increase its electricity generation capacity to approximately 100 MW. (See also SRK's Environmental Impact Report loaded to SAHRIS.)

NGEPP project location:

Zone: Lease 1, Karbochem Industrial Complex

Erven: Erf 15618 Newcastle (NGEPP site). Extent 1.58 ha

Remainder of Erf 13744 Newcastle (LNG facility). Extent 50.12 ha.

LNG facility footprint is 0.361 ha of the total Erf area:

- LNG dispensing Station: 0.052 ha.
- LNG Tank Farm: 0.157 ha.
- Regassification facility: 0.152 ha.

Address: 3 Karbochem Road, Newcastle.

Coordinates: 27° 47.078' S; 29° 58.170' E

The overall project would broadly involve the following:

- Decommissioning, demolition and removal of the existing cogeneration plant (i.e. to make space for the NGEPP).
- Engineering, procurement, construction, commissioning, and operation of the new 100 MW NGEPP and associated infrastructure.

¹ Information provided by the appointed EAP, SRK Consulting (South Africa) (Pty) Ltd.

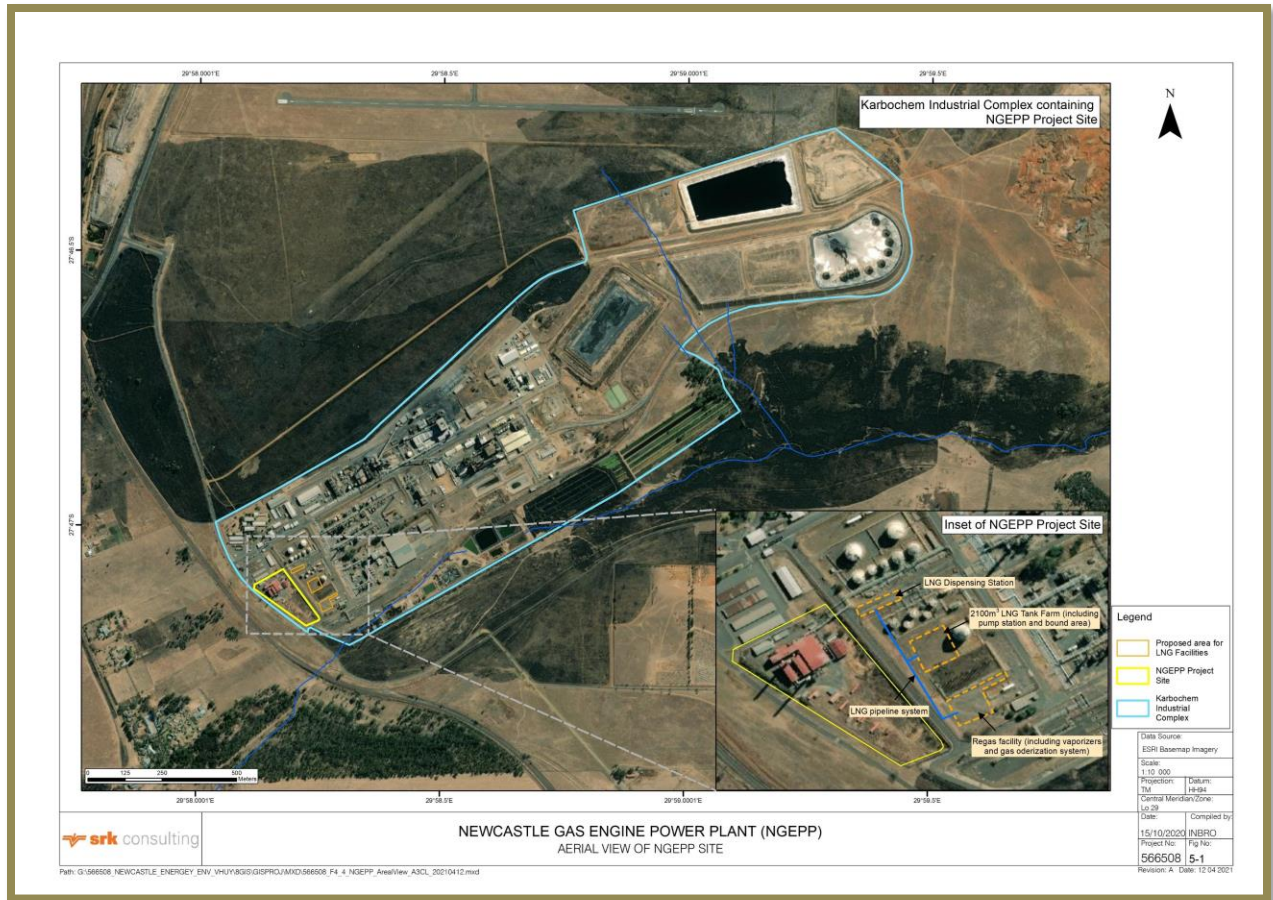


Figure 1 Proposed NGEPP Project Site within the KarboChem Industrial Complex
(See kml and photographs loaded to SAHRIS Case File)

Observations

eThembeni Cultural Heritage was appointed by SRK Consulting (South Africa) (Pty) Ltd to finalise the heritage assessment reporting of the project subsequent to the untimely passing of Mr Frans Prins of Active Heritage Consulting.

eThembeni staff have not undertaken a field inspection of the proposed project site. However, in mitigation of this, the author is well acquainted with the commercial and industrial areas of Newcastle having compiled the Heritage component of the Newcastle EMF for Isibuko Se-Afrika in 2011, and further conducted numerous heritage assessments within the Newcastle and Madadeni commercial and industrial zones and the outlying peri-urban areas. The proposed NGEPP Project Site lies within the KarboChem Industrial Complex in an established industrial zone that has operated at various levels of intensity since the early 20th C.

Historical Background

Newcastle is the third-largest urban centre in KwaZulu-Natal and is categorised as a secondary city. The town was strategically placed, in 1854, by the Surveyor General of the Natal Colony, Dr PC Sutherland. The town was later known as the Waterfall River Township named for the nearby Ncandu River. In 1864, the town of Newcastle was founded on the site, becoming the fourth town to be established in the Natal Colony. The town was named after the British Colonial Secretary, the Duke of Newcastle.

Newcastle functioned as a major transport junction and popular stopover for wagons and post-chaises during the late 1800's. In 1890, the first train arrived in Newcastle. In 1891, Newcastle was declared a borough. The discovery of coal brought a new era of prosperity to the town and several ambitious building projects were planned for Newcastle in the late 1800's.

The town has served as a major regional service, manufacturing and commercial hub throughout the 20thC, that gained further traction in the early 1980's with the establishment of Madadeni as a "border industry node" within the constructs of the previous KwaZulu Homeland. Madadeni is the home town of Dr Frank Mdlalose, previous Speaker of the KwaZulu Legislative Assembly, MPL, and the first Premier of the newly formed KwaZulu-Natal Province post 1994.

Previous field observations

The Ncandu River, a tributary feed in into the Mzinyathi drainage basin, has over millenia deposited alluvium into the lower lying areas to the east of the commercial and residential zones of Newcastle resulting in a perched water table in the lower lying area where the industrial zones have been established. My own observations, and previous reporting for a new cemetery site in Madadeni, concluded that in pre-industrial times the lower lying lying Incadu/ Mzinyathi drainage basin would have been prone to seasonal waterlogging and was thus eschewed for settlement by Iron Age communities. Thus, primary context archaeological remains are unlikely. Stone-walled Iron Age settlements are recorded on the higher-lying hills along the base of the Drakensberg escarpment immediately to the south and west of the Newcastle townlands.

The 20th C history of industrial activity on previously ploughed farmlands within the Newcastle Industrial Zone precludes the presence of any primary context archaeological material within the underlying colluvium and deeply weathered substrate. (See Google Earth historical imagery for evidence of contour ploughed windrows).

The underlying lithology comprises Vryheid Formation deposits (upper Ecca Group) including fine to coarse-grained sandstone, shale and coal seams, intruded by Karoo Dolerite. Dolerite is not fossiliferous. The Vryheid Formation is fossil-bearing but significant palaeontological material is unlikely to be impacted upon as the overlying Quaternary substrate is deep and weathered (see Test Pit Profiles provided within the Geotechnical Report, uploaded to the SAHRIS Case File). Construction activities are unlikely to extend beyond three metres below the surface. I have been advised by Dr Gideon Groenewald² and Dr G.A. Botha³ over the years that such surface activities, as are envisaged, would not impact upon any potentially fossiliferous deeper underlying lithologies.

Recommendations

In the absence of any heritage resources of significance, and that no further palaeontological assessment is recommended, we accordingly request that Amafa allow the development to proceed with no further heritage resource mitigation; suffice that the protocols in Appendix 1 and 2 are made binding to any Environmental Authorisations issued.

Please can you notify SRK Consulting timeously, via the loaded SAHRIS Case File, as to the decision of Amafa in this regard?

Yours sincerely



Len van Schalkwyk
Principal Investigator.

25 August 2021.

² Groenewald, G. 2012. Palaeontological Technical Report for KZN. Amafa aKwaZulu-Natali. Pietermaritzburg.

³ Head: Council for Geo Science. KZN Office. Pietermaritzburg.

Appendix 1
Protocol for the Identification, Protection and Recovery of Heritage Resources
During Construction and Operation

It is not impossible that sub-surface heritage resources could be encountered during the construction phase of this project. The Environmental Control Officer and all other persons responsible for site management and excavation should be aware that indicators of sub-surface sites could include:

- Ash deposits (unnaturally grey appearance of soil compared to the surrounding substrate);
- Bone concentrations, either animal or human;
- Ceramic fragments, including potsherds;
- Stone concentrations that appear to be formally arranged (may indicate the presence of an underlying burial, or represent building/structural remains); and
- Fossilised remains of fauna and flora, including trees.

In the event that such indicator(s) of heritage resources are identified, the following actions should be taken immediately:

- All construction within a radius of at least 20 m of the indicator should cease. This distance should be increased at the discretion of supervisory staff if heavy machinery or explosives could cause further disturbance to the suspected heritage resource.
- This area must be marked using clearly visible means, such as barrier tape, and all personnel should be informed that it is a no-go area.
- A guard should be appointed to enforce this no-go area if there is any possibility that it could be violated, whether intentionally or inadvertently, by construction staff or members of the public.
- No measures should be taken to cover up the suspected heritage resource with soil, or to collect any remains such as bone or stone.
- If a heritage practitioner has been appointed to monitor the project, s/he should be contacted and a site inspection arranged as soon as possible.
- If no heritage practitioner has been appointed to monitor the project, the head of archaeology at Amafa's Pietermaritzburg office should be contacted; telephone 033 3946 543.
- The South African Police Services should be notified by an Amafa staff member or an independent heritage practitioner if human remains are identified. No SAPS official may disturb or exhume such remains, whether of recent origin or not.
- All parties concerned should respect the potentially sensitive and confidential nature of the heritage resources, particularly human remains, and refrain from making public statements until a mutually agreed time.
- Any extension of the project beyond its current footprint involving vegetation and/or earth clearance should be subject to prior assessment by a qualified heritage practitioner, considering all information gathered during the initial assessment.

Appendix 2

Palaeontology Chance Find Protocol

The Gas Engine Power Plant site area is demarcated red on the SAHRIS Palaeosensitivity map, and a chance find protocol is thus recommended.

In the event of any palaeontological finds, a Palaeontologist accredited by a PHRA or SAHRA must be notified immediately by the project ECO or EAP:

- a site inspection must be arranged at the earliest opportunity with the Palaeontologist.
- construction activity must be halted in area of finds and the Palaeontologist must be given sufficient opportunity to remove the material before activities continues.
- mitigation may involve the systematic collection and recording of a sample of the fossils discovered and their documentation, labelling, packaging, boxing, and curation at cost to the developer
- It is the responsibility of the Developer, as guided by the appointed Palaeontologist to:
 - allow for such a representative sample to be retrieved.
 - assist in the supply of materials, labour, and machinery to excavate, load and transport sampled material from the sampling site/s to a HSE compliant sorting area.
 - provide safe storage for fossil material retrieved before this being transported to an accredited curation facility for curation.

Annexure A:
Specialist Declaration of Interest



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

DETAILS OF THE SPECIALIST, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

File Reference Number:
NEAS Reference Number:
Date Received:

(For official use only)

DEA/EIA/

Application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

PROJECT TITLE

Specialist Heritage Study: Environmental Impact Report for the Proposed Newcastle Gas Engine Power Plant, KwaZulu-Natal

Kindly note the following:

1. This form must always be used for applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting where this Department is the Competent Authority.
2. This form is current as of 01 September 2018. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at <https://www.environment.gov.za/documents/forms>.
3. A copy of this form containing original signatures must be appended to all Draft and Final Reports submitted to the department for consideration.
4. All documentation delivered to the physical address contained in this form must be delivered during the official Departmental Officer Hours which is visible on the Departmental gate.
5. All EIA related documents (includes application forms, reports or any EIA related submissions) that are faxed; emailed; delivered to Security or placed in the Departmental Tender Box will not be accepted, only hardcopy submissions are accepted.

Departmental Details

Postal address:

Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001

Physical address:

Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Environment House
473 Steve Biko Road
Arcadia

Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at:
Email: EIAAdmin@environment.gov.za

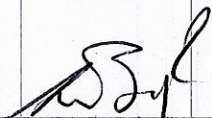
1. SPECIALIST INFORMATION

Specialist Company Name:	eThembeni Cultural Heritage Management		
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	4	Percentage Procurement recognition
Specialist name:	Len van Schalkwyk		
Specialist Qualifications:	MA Archaeology (UCT 1992)		
Professional affiliation/registration:	Association of Southern African Archaeologists ASAPA. (Mem. No. 165). Association of Professional Heritage Practitioners		
Physical address:	7 Dely Crescent, ASHBURTON, Msunduzi		
Postal address:	PO Box 200057, ASHBURTON, Msunduzi.		
Postal code:	3213	Cell:	0826559077
Telephone:		Fax:	0866728557
E-mail:	thembeni@iafrica.com		

2. DECLARATION BY THE SPECIALIST

I, Leonard van Schalkwyk, declare that –

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.



Signature of the Specialist

eThembeni Cultural Heritage Management

Name of Company:

24 August 2021

Date

3. **UNDERTAKING UNDER OATH/ AFFIRMATION**

I, Leonard van Schalkwyk, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.



Signature of the Specialist

Name of Company
eThembeni Cultural Heritage Management

Date
27 August 2021



Signature of the Commissioner of Oaths



Date
27 August 2021

Annexure B:
Specialist CV

Curriculum Vitae

Position:	Director / Heritage Consultant
Name of Firm:	eThembeni Cultural Heritage Management
Name:	Leonard Outram van Schalkwyk
Profession:	Archaeologist; Heritage Practitioner
Date of birth:	7 July 1959
Position in firm:	Director
Years with Firm:	21
Professional Membership and Association:	Association of Professional Heritage Practitioners – Accredited Member since 2016. Association of Southern African Professional Archaeologists (ASAPA):1998 – present. ASAPA Council Member - Cultural Resources Management Portfolio (CRM): 2011 – 2019. ASAPA CRM Section - listed as Principal Investigator since 1998. Amafa aKwaZulu-Natali accredited heritage practitioner since 2001. SAHRA Archaeological Permit Advisory Committee (2004/5). South African member of International Scientific Committee for Archaeological Management, elected by ICOMOS-SA Executive (1999 - 2000). Provincial Representative: South African World Heritage Convention Committee (1998-2000). Southern African Museums Association (1984 -1999). South African Association of Archaeologists: 1984 – 1998.
Specialisation:	CRM Accreditation: Principal Investigator: Later Stone Age and Iron Age archaeology; Ancestral Graves Management.
Academic qualifications:	BA Hons. Archaeology (Stell) 1982; MA Archaeology (UCT) 1992

Cultural Heritage Impact Assessment. *

* [as required by the National Environmental Management Act 107 of 1998 as amended (NEMA), in compliance with Section 38 of the National Heritage Resources Act 25 of 1999 as amended (NHRA),

other relevant SADEC national heritage legislations and,

UNESCO/ICOMOS and IMF/WB/IFC standards and guidelines for international best practice.

eThembeni has completed more than 1500 heritage impact assessments and specialist studies throughout southern Africa including the Republic, Lesotho, Namibia, Botswana, and Mozambique. My most current heritage management projects are all listed on SAHRIS (<http://www.sahra.org.za>).

Residential, commercial, and mixed-use projects

Expansion of Alumicor Facility, Pietermaritzburg	WSP Environment & Energy
Amber Lakes housing development	Terratest (Pty) Ltd
Umlazi Uganda housing development, KZN	EThekweni Metropolitan Municipality
Tulele housing development, Shakaskraal, KZN	Indiflora cc
Hull Valley housing development, Craigieburn; Ekwandeni housing development, Hammarsdale; Emapheleni housing development, Clermont, KZN	NDG-Africa
Msunduzi Waterfront Development, Pietermaritzburg, KZN	Ocean Spray Investments (Pty) Ltd
Izinga Phase 3 residential development and Lungisisa Indlela Village, Umhlanga; and Zimbali Lakes residential development, Ballito, KZN	SiVEST Environmental Division
Mpola Phase 3 housing development, Pinetown, KZN	SRK Consulting
Driefontein Gardens Estate development, Shakas Rock, KZN	Dewanig Investments cc
Groutville Priority 1 Phase 2 and Chris Hani residential developments, Darnall, KZN	KwaDukuza Municipality
Bhanoyi Country Estate, Rietvlei, KZN	Bhanoyi Property Holdings (Pty) Ltd
Amaotana housing development, Verulam, KZN	2G Environmental Management
Housing, commercial, and industrial development, Ixopo, KZN	The Craigie Burn Land Trust

Ashburton housing development, Pietermaritzburg, KZN Compensation Flats Industrial and Business Park Development, Compensation; Inyaninga Mixed Use Development, Tongaat; and uShukela Highway Business and Office Park Development. Tinley Manor Residential Developments; North and South Bank	Oro Management cc Tongaat Hulett Developments
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Strategic Environmental Assessments (SEA's) and Local Development Plans (LDP's)

Newcastle LM SEA Ilembe DM EMF Ugu DM EMF Mdumbe DM EMF Regional Cultural Tourism Route Identification R66/R68, KZN Transfrontier SEA Thermal Coal Mines – Botswana/RSA Mkhambati Nature Reserve and local communities LDP Sodwana Bay Tourism Node and Beach Rehabilitation LDP St Lucia town precinct, boardwalks, and beach access LDP	Izibuko se Afrika SSI Mott MacDonald International Institute of Natural Resources COGTA, KZN Mott MacDonald International Eastern Cape Parks and Tourism Acer (Africa) and Isimangaliso Wetland Park Authority
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Ancestral graves management

- o Graves and Burial Grounds Policy for Tongaat Hulett Developments, KZN. 2012.
- o Embo Community Trust - Cotswold Downs Grave Mediation for Keith Wakefield / Luke Bales Developments. 2010-2020. LRDA.
- o Kwandengezi residential and infrastructure development. Graves mediation. Aurecon for eThekweni Municipality. 2012–2015.
- o Mbonambi family graves - negotiation of appropriate mitigation for exhumation and reinterment of two ancestral graves at Dlambula School, Umgababa/Mnini. Department of Public Works and Ithala Bank. 2014.
- o Identification of 550 graves in Zulti South Mineral Lease Area and community negotiations for graves management. Richards Bay Mining (Rio Tinto). 2011-2016. Amafa approved. Ongoing.
- o Ludeke Dam, Bizana, Eastern Cape for Umgeni Water. Exhumation and reinterment of 24 graves within FSL. 2012–2014. SAHRA approved.
- o Mvutshane Dam, Mapumulo, KZN for Umgeni Water. Exhumation and reinterment of 54 graves within FSL. 2013-2014. Amafa approved. Completed. December 2014.
- o Proposed Fuleni Coal Mine for Jacana Environmental / Ibutho Coal. Terminated due to community resistance. 2014.
- o Grave mediation. Mlaba Traditional Authority. Ukhuko Mine. For Zululand Anthracite Collieries. 2015.
- o Ariadne-St Faiths-Eros Powerlines. Grave mediations (n=125). Mokgope Consulting / Eskom. 2016 – 2018.
- o Ozwathini Reservoir. Negotiation of appropriate mitigation for exhumation and reinterment of four ancestral graves. Umgeni Water. 2018.

Community liaison

- o Mbonambi and Sokhulu communities - negotiated mitigation and future practice regarding exposure of human remains by Richards Bay Minerals' mining activities on ancestral lands.
- o KwaNdengezi *in situ* housing and infrastructure upgrade - negotiation of appropriate mitigation for exhumation and reinterment of 30 ancestral graves. eThekweni Metropolitan Municipality.
- o Dube and Mkhwanazi communities – management of 550 graves in Zulti South Mineral Lease Area for Richards Bay Mining.
- o Dodoma Avenue/Kennedy Road Hindu Burial Site. Clare Estate Development Forum and eThekweni Metro (2013 - present).
- o Isimangaliso Wetland Park Authority - Cultural Heritage Resources Management Plan for the Isimangaliso Wetland Park. 2017-2018.

I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe me, my qualifications, and my experience.



Leonard Outram van Schalkwyk.

August 2021.

August 2021