

# APPENDIX C

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## CURRICULA VITAE OF ENVIRONMENTAL ASSESSMENT PRACTITIONER



## 1 Personal Particulars

**Date of Birth:** 1976-12-06  
**Name of Staff:** Donavan Henning  
**Years of Experience:** 20  
**Nationality:** RSA

## 2 Position in the firm and within the organization of this assignment

Registered Environmental Assessment Practitioner.

## 3 Education

Institution (Date from – Date to)	Degree(s) or Diploma(s) obtained
RAU (1995 – 1997)	B.Sc. Zoology and Biochemistry
RAU (1998)	B. Sc. Hons. Zoology
RAU (1999 – 2000)	M. Sc. Freshwater Ecology

## 4 Membership of professional bodies

- Environmental Assessment Practitioners Association of South Africa (EAPASA) (2020/1217).
- South African Council for Natural Scientific Professions (SACNASP) (400108/17).

## 5 Relevant Experience - Energy

1.	<b>Project Name:</b>	<b>KIVU56</b>
	<b>Client:</b>	Symbion Power Lake Kivu LTD
	<b>Location of Project:</b>	Rubavu District, Western Province, Rwanda
	<b>Duration (Start &amp; Completion Dates):</b>	Feb 2020 – Nov 2020
	<b>Brief Description of work:</b>	The KIVU56 project is located on the eastern shores of Lake Kivu, Rwanda. Methane gas is extracted from the waters of Lake Kivu and used to run engines that generate electricity. The electricity is passed onto the Rwandan national grid and used throughout the country. Nemai Consulting was appointed to ensure that the project conforms to the International Finance Corporation's 2012 Performance Standards on Environmental and Social Sustainability.
2.	<b>Project Name:</b>	<b>Matjhabeng Solar PV Project</b>
	<b>Client:</b>	SunElex Energy (Pty) Ltd
	<b>Location of Project:</b>	Odendaalsrus, Free State Province, RSA
	<b>Duration (Start &amp; Completion Dates):</b>	Jul – Nov 2018
	<b>Brief Description of work:</b>	SunElex Energy (Pty) Ltd has proposed the development of the Matjhabeng 400 MW Solar Photovoltaic Plant with 80 MW (320 MWh) Battery Energy Storage System, which is located north and south of the town of Odendaalsrus in the Free State Province. The proposed Solar Photovoltaic Plant will be developed to serve the Matjhabeng Local Municipality's energy requirements and will generate power for delivery to the local/national grid. The electricity generated by the Solar Photovoltaic Plant will be injected into the existing Eskom 132kV distribution system.
3.	<b>Project Name:</b>	<b>75MW Beaufort West Photovoltaic Project</b>
	<b>Client:</b>	Beaufort West Photovoltaic (Pty) Ltd
	<b>Location of Project:</b>	Beaufort West, Western Cape, RSA
	<b>Duration (Start &amp; Completion Dates):</b>	Nov 2020 – Jul 2021
	<b>Brief Description of work:</b>	

	Beaufort West Photovoltaic (Pty) Ltd has proposed the development of the Beaufort West Photovoltaic (PV) Project in the Western Cape, with a total generation capacity of not exceeding 75MW renewable solar energy. The associated infrastructure includes access roads, overhead power lines, substation and control building(s). The electricity generated by the PV Park will be transferred to the national Eskom grid. The Project will connect to existing Droërivier Substation beside the N12 through a $\pm 14.9$ km single circuit twin conductor 132 kV line.
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<b>4.</b>	<b>Project Name:</b>	<b>uMkhomazi Water Project Phase 1</b>
	<b>Client:</b>	Department of Water and Sanitation
	<b>Location of Project:</b>	Bulwer, KwaZulu-Natal Province, RSA
	<b>Duration (Start &amp; Completion Dates):</b>	Aug 2013 - Present
	<b>Brief Description of work:</b>	
	EIA as part of Feasibility Study for the uMkhomazi Water Project Phase 1. Project components include large storage dam, tunnel, balancing dam, raw water pipeline and <b>hydropower facilities</b> (Baynesfield HPP - 3 MW power potential; Smithfield Dam HPP- 2.6 MW power potential).	

<b>5.</b>	<b>Project Name:</b>	<b>Hydropower Plant within Hydraulic Network at Zoekfontein Site</b>
	<b>Client:</b>	Rand Water
	<b>Location of Project:</b>	Zoekfontein, Gauteng Province, RSA
	<b>Duration (Start &amp; Completion Dates):</b>	Feb 2012 – April 2014
	<b>Brief Description of work:</b>	
	Environmental Impact Assessment for the construction of an 8 MW hydropower station alongside the Zoekfontein Control Works downstream of the Vaal Dam.	

<b>6.</b>	<b>Project Name:</b>	<b>Impompomo Hydropower Plant</b>
	<b>Client:</b>	Blue World Power & Energy
	<b>Location of Project:</b>	Mpumalanga, RSA
	<b>Duration (Start &amp; Completion Dates):</b>	2018
	<b>Brief Description of work:</b>	
	Environmental Screening for a hydropower plant on the Mpompomo Falls in Mpumalanga. The scope of works include the Impompomo powerhouse (hydropower plant), powerlines from Impompomo hydropower plant to Barberton, penstock from Mpompomo Top Weir and Mpompomo Top Weir.	

<b>7.</b>	<b>Project Name:</b>	<b>Neptune-Poseidon Transmission Line</b>
	<b>Client:</b>	Eskom
	<b>Location of Project:</b>	Eastern Cape, RSA
	<b>Duration (Start &amp; Completion Dates):</b>	2009 - 2011
	<b>Brief Description of work:</b>	
	EIA and public participation for a 200 km transmission line, with alternatives, with 3000 affected parties and landowners.	

<b>8.</b>	<b>Project Name:</b>	<b>Anderson Dinaledi Transmission Line</b>
	<b>Client:</b>	Eskom
	<b>Location of Project:</b>	North-West, RSA
	<b>Duration (Start &amp; Completion Dates):</b>	2011 - 2013
	<b>Brief Description of work:</b>	
	EIA and public participation for an 80 km transmission line, with alternatives, through a the Magaliesburg Nature Conservation Area.	

<b>9.</b>	<b>Project Name:</b>	<b>Makalu B (Igesi) Substation and Associated Transmission Loop-In Lines</b>
	<b>Client:</b>	Eskom
	<b>Location of Project:</b>	Free State, RSA
	<b>Duration (Start &amp; Completion Dates):</b>	2016 - 2018
	<b>Brief Description of work:</b>	
	EIA and public participation for a new substation and 2 x 275 kV line loop-ins from the Lethabo – Makalu Lines.	

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## PERSONAL DATA

<b>Name</b>	Dhanashree (Nicky) Naidoo
<b>Date of Birth</b>	1973-03-27
<b>Nationality</b>	South African
<b>Qualification</b>	BSc Chemical Eng International Accredited Auditor
<b>Years of Experience</b>	22
<b>Profession</b>	Environmental Engineer
<b>Professional Registration</b>	IAIA, ECSA, South African Monitoring and Evaluation Association

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## EMPLOYMENT RECORD

1995-1998 Eskom  
1998-1999 Bergman Ingerop  
1999- To Date Nemai Consulting

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## EXPERIENCE RECORD PERTINENT TO REQUIRED SERVICE

### (A) EIA's, SIA's and EMPs'

- 1) Development of the ESMF and SEP for the Public and Private Sector Energy Efficiency Programme for Application to the Green Climate Fund.
- 2) Environmental and Social Due Diligence for the Extraction of Gas and Electric Power Production Plant in the Rubavu District, Rwanda.
- 3) Project Managed and facilitated Public Participation on the Berths 203 to 205 EIA Expansion Programme. This is the only infill project in the Port of Durban in the last 10 years.
- 4) The uMkhomazi Water Project Phase 1 - Raw Water Component. Project Manager of the EIA for the proposed uMkhomazi Water Project. This includes a dam and associated infrastructure on the raw water side.
- 5) nCwabeni Dam - Project Manager of the EIA for the construction of a new raw water supply dam in Ugu in southern KwaZulu Natal.
- 6) Mhlabatshane Dam EIA - Project Manager of the EIA which covered the construction of a new 20m high bulk rural water supply dam in southern KwaZulu Natal. The project included the EIA for the associated Water Treatment Works.
- 7) The uMkhomazi Water Project Phase 1 - Raw Water Component - Project Manager of the EIA for the proposed uMkhomazi Water Project. This includes a Water Treatment Works and associated infrastructure on for the potable water side.
- 8) Mokolo Crocodile Water Augmentation Project, Project Manager of the EIA for the heavy engineering pipelines and water transfer scheme, Limpopo Province
- 9) Anderson Dinaledi Transmission Line - Project Manager of the EIA and public participation for a 80 km transmission line, with alternatives, through a the Magaliesburg Nature Conservation Area.
- 10) High Altitude Training Facility – Project Manager of the EIA and public participation for an international high altitude training facility in Mpumalanga. The project included

- access roads, WTW, WWTW and relocation of protected species. The development was designed around Green Building principles.
- 11) FET Colleges – Project Manager for the EIA and public participation for 16 FET Colleges around the country. This is a SIP and is a fast tracked project hence the company understands the pressure and need of presidential projects. Included are many waste licences and WULA's.
  - 12) Resource Management Plans for 15 government water works. Project Manager for the development of these RMPs which covered reservoirs such as the Vaal, Midmar, Loskop, Craigieburn and Hazelemere Dams.
  - 13) Neptune Poseidon Transmission Line, Eastern Cape - Project Manager of the EIA and public participation for a 320 km transmission line, with alternatives, from East London to Fort Beaufort in the Eastern Cape
  - 14) Performed all EIAs and prepared EMPs for Johannesburg Water sanitation and water supply capital projects for 2003-2007 financial years. Projects for which authorization was sought include expansions to Waste Water Treatment Works, outfall sewer pipelines, bulk and reticulation pipelines and pump stations. Over 50 EIA completed over this period.
  - 15) Boksburg Cason Pipeline –Completed detailed EIA for the construction of a 53 km pipeline.
  - 16) EIA for the Northern Waste Water Treatments Works, Unit 5, 50 MI/day capacity.
  - 17) Total Gas holding facilities, Senegal – Completed Environmental Impact Assessment Study for the existing infrastructure as well as a new gas sphere.
  - 18) EIA and SIA for 180km transmission line for Eskom.
  - 19) EIA, SIA and EMP for 280km long transmission line for Eskom.
  - 20) EIA for Casino Development in Queenstown. Involved details Social Impact Assessment study of the project on the community and EIA because the casino is to be located in the De Lange Nature Reserve.
  - 21) EIA for Cast Iron Pipe Factory in Pretoria. Was successful in getting the Client, Stanton from the UK, an exemption on the project.
  - 22) EIA and EMP for pipeline for Hartbeespoortdam Local Town Council
  - 23) EIA, EMP and SIA for Maputo Corridor
  - 24) EIA and EMP for water reticulation project in Piet Gouws.
  - 25) I was employed by the Inspectorate Division in Gauteng for the period from January 2000 to March 2000 as a Senior Environmental Officer.
  - 26) EMP and social survey for the Witbank to Maputo Toll road on the Mozambican side.
  - 27) EIA and EMP for R600 000 000 project funded by the DBSA for a 1000km long Fibre Optic Communication Line in Mozambique. The Client is TDM and the project starts in Beira in the North and runs to Maputo in the South. The entire project is in accordance to ISO 14001 standards. This was the first project of its kind in Mozambique.

## **(B) ENVIRONMENTAL MANAGEMENT FRAMEWORKS**

- (1) Project Manager for the Frances Baard District Municipality Environmental Management Framework.
- (2) Project Manager for the Integrated Environmental Management Plan for the Sol Plaatje Local Municipality.
- (3) Project Manager for the Project Management and planning for the development of the Namakwa District Municipality Environmental Management Framework.

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- (4) Project Manager for the Umzinyathi District Municipality Environmental Management Framework.
  - (5) EMF for the Jukskei River.
  - (6) EMF for the Great Ellis Park development.
  - (7) EMF for the Mapungubwe World Heritage Site for DEA.

**(C) WASTE SECTOR**

- 1) Construction of a 50 Ml/day treatment unit (Unit 5) including sedimentation tanks, BNR activated sludge treatment and chemical dosing facility at Northern WWTW, for Johannesburg Water.
- 2) Remediation of Fine Ash 1 and 2 /Coarse Ash Dump/ Venco Capillary Break for Infrachem, a division of Sasol
- 3) Scoping/EA and IWWMP for the disposal, treatment and re-use of Fine Ash 3, 4 and 5 at Sasol.
- 4) IWWMP for the disposal of gypsum for Infrachem.
- 5) EIA and IWWMP for the storage of Hazardous Waste Material for Merisol.
- 6) BA and IWWMP for the storage of Chlor Vinyls Brine Sludge for Sasol Polymers.
- 7) BA and IWWMP for the storage of Wax Catalyst Storage for Sasol Wax.
- 8) BA and IWWMP for the storage of Solvents Catalyst Store for Sasol Solvents.
- 9) BA and IWWMP for the disposal of asbestos waste for Transnet.
- 10) Increase in sludge treatment capacity including new lime dosing plant at Northern Works WWTW, for Johannesburg Water.
- 11) Construction of sewerage pump station in Alveda Park, for Inframax.
- 12) Construction of thickeners at the Goudkoppies WWTW, for Johannesburg Water.
- 13) Expansion of the maturation ponds at the Bushkoppies WWTW, for Johannesburg Water.
- 14) Expansion of the Olifantsvlei WWTW, for Johannesburg Water, for Johannesburg Water.
- 15) Emergency dam and pump station at the Olifantsvlei WWTW, for Johannesburg Water.
- 16) Bruma Lake Desilting combined waste licence.
- 17) Henley on Klip landfill application
- 18) Walkeville landfill closure application.
- 19) Groethoek Hospital medical waste storage
- 20) Transwerk asbestos removal and disposal application
- 21) Rehabilitation of Transnet rail infrastructure of asbestos waste
- 22) Kwa Themba landfill closure application
- 23) IWMP for the Bojanala Platinum District Municipality
- 24) Frances Baard IWMP
- 25) Thabo Mofutsanyane District Municipality IWMP
- 26) Motheo District Municipality IWMP
- 27) Lejweleputswa District Municipality IWMP
- 28) Naledi Local Municipality IWMP
- 29) Mantsopa Local Municipality IWMP
- 30) North West Provincial IWMP
- 31) Illegal Waste Minimisation Implementation Strategy
- 32) EPWP Waste Management Strategy
- 33) Generic Waste Management Contract for Municipalities

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34) Soweto Waste Clean-up Programmes

**(B) WATER SECTOR RELATED PROJECTS**

- 1) Developed Provincial Water Sector Plan Guideline.
- 2) Developed concept paper on Water for Growth and Development.
- 3) Developed checklists for EDSS.
- 4) Developed monitoring and auditing guidelines.
- 5) Compile on SDMS.
- 6) Compile on 2<sup>nd</sup> Edition CEIMP.
- 7) Compiled Resource Management Plans for 17 Dams

**(D) ENVIRONMENTAL AUDITING AND REPORTING**

- 1) Completed an environmental and safety audit for the decommissioning of the Grootvlei Power Station.
- 2) Completed an environmental and safety audit for the decommissioning of the Camden Power Station.
- 3) Completed an environmental audit for the decommissioning of the Komati Power Station.
- 4) Completed an environmental and safety audit for the Total Bottling Plant in Dakar, Senegal.
- 5) Completed the verification of the Rand Water Environmental Report for 2001.
- 6) Completed an environmental report for the Pindamondagaba development in Brazil.
- 7) Completed environmental auditing of all landfills in Gauteng for the provincial government.

**(E) ENVIRONMENTAL ENGINEERING**

- 1) Environmental design review of the Naphta Tar Extraction Plant at Sasol.
- 2) Environmental design review of the upgrade of certain process at Sapref plant.
- 3) Environmental design of the Total Gas Bottling Plant in Senegal.

**(F) AIR, WATER AND SOIL MONITORING AND CONTROL**

- 1) Catchment Study. Determine the impact of raw sewage in the Elands River Catchment area on the Valkopdam.
- 2) Catchment Study: Impact of defunct mines on water quality in the Loskopdam catchment.
- 3) Water quality analysis for the Jukskei and the Klipspruit Catchment.
- 4) Soil and Ground water monitoring, quality control and remediation measures for Collect-a-can site in Vanderbylpark. The soil was highly contaminated with various inorganic chemicals.
- 5) Soil, water and air quality analysis for chemical spill at the Eskom Phalaborwa sub-station site. The polluting agents were essentially phosphates.
- 6) Air emission control management at Eskom Power Stations. Monitoring plans were implemented to assess air emission from the stacks. Various cleaning technologies were investigated.
- 7) Air emission analysis at the Cast Iron Pipe Factory in Pretoria. Review and compared smelter technologies. This formed part of the EIA study for the construction of a new plant; however, the study did include review of air emission monitoring on the existing plant. This was a requirement from CAPCO.

- 8) Scale Inhibitors: Study done in conjunction with the CSIR to determine the impact of the use of scale inhibitors at Eskom Power Stations on water quality.
- 9) Air, water and soil analysis at the Total Senegal Plant. Did trial studies of dispersion tests at the plant in order to satisfy the French Environmental Legislation.
- 8) Kendal Power Station Water Balance – Prepared software package to monitor water usage and effluent use at the station.
- 10) Simunye Return to Service (RTS) Report – Performed feasibility and environmental study and made recommendations on process water, effluent and stormwater management, cooling water system, chemical dosing systems, and air emission control and sewerage treatment system for Grootvlei Power Station.
- 11) Environmental Review – Responsible for interpreting ground and surface water analysis in accordance with the drinking water standards as set out by the DWAF within Eskom

#### **(E) RESEARCH PROJECTS (in conjunction with various institutions)**

- 1) Hydrogen Research – Engaged in research associated with the novel approach of handling and venting contaminated hydrogen mixtures.
- 2) Scale Inhibitors – Used regression test analysis to determine whether the generic approach to scale prevention within Eskom was possible and the environmental effect on the ash dams of dosing scale inhibitors.
- 3) Hydrogen Venting – Responsible for performing all calculations associated with the venting of hydrogen air mixtures. Reviewed and commented on hydrogen handling specification/standard. Completed extensive literature surveys locally and internationally.
- 4) Fire Protection – Part of design team responsible for novel approach to conveyor belt protection. Wrote software package to predict effects of water droplet sizes on extinguishing fires. Completed extensive literature surveys locally and internationally.
- 5) Crystallisation Modelling – Extensively involved in the modelling of the growth of calcium sulphate crystals, optimisation of crystallisation processes and investigating the effects of various parameters on the growth of crystals.
- 6) Completed literature search on public participation in water related projects in third and first world countries.

#### **(G) RISK ASSESSMENTS**

- 1) Total Gas holding facilities, Senegal – Completed Risk Assessment Study for the existing infrastructure as well as a new gas sphere and bottling plant. The study was done in accordance to the French Legislation.
- 2) Contingency Plans for Simunye Power Station – Compiled document presenting the various contingency plans, in the event of an environmental disaster, for the different decommissioned stations. The report was aimed at satisfying the needs and requirements set by the DWAF and DEAT. Focused on HAZOP analysis and pollution control from a design point of view.
- 3) Risk and Environmental Impact Assessment and Integrated Environmental Management – Reviewed and commented on numerous RIA's, EIA's and IEM's for the various Eskom stations.
- 4) Prepared oil spill contingency plans for Eskom wide power stations.

#### **(H) CLIMATE CHANGE**

- 1) Climate change adaptation strategy for the City of Johannesburg with special focus on water infrastructure.



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- 2) Berths 203 – 205 expansion – Climate Change Study to determine the impacts of sea level rise and extreme weather conditions on the design of the new berths in the Port of Durban.
  - 3) Climate Change Study to determine the impacts on the water sector for DWS Study included in the Growth and Development Programme.
  - 4) Factored in climate change implications on 10 EIA Studies.