

 ESKOM TRANSMISSION ENVIRONMENTAL MANAGEMENT PROGRAMME FOR PHASE A AND B OF THE ACACIA REFURBISHMENT										REFERENCE TO 240-78305014	REV. 1 Review Date: 31 March 2019
Legal Requirements: http://txenviro.eskom.co.za/legalregister.htm . or http://www.imbewuregisters.co.za / http://www.sabinet.co.za										UNIQUE IDENTIFIER NO:	0-109832932
* This EMP should be used as a guideline to assist Project Managers / Contractors / Vendors in compiling their project specific EMP* *The contents of this EMP is not limited and the responsibility remains with the relevant supplier / contractor to ensure all project specific activities and legislation (including local by-laws) have been identified and managed* *The purpose of this EMP is to provide a guideline to manage project activities that are not subjected to the EIA process i.t.o. National Environmental Management Act, 1998 (Act No.107 OF 1998) Environmental Impact Assessment Regulations (2014)*											
NR	ACTIVITY	ASPECT	IMPACT	SIGNIFICANCE	OBJECTIVE	TARGET	MEANS / METHOD STATEMENT	DUE DATE	RESPONSIBLE PERSON	Completion Date	Environmental Legislation
1	Procurement	Evaluation and adjudication of tender submissions	Failure to include environmental I requirements during tender process could results into environmental degradation	HIGH	Ensure Eskom SHEQ requirements are specified / included during tender process	With the submission of each tender	Ensure Environmental requirements are taken into account during tender process .	Tender submission	Buyer		SHE Requirements for the Eskom Commercial Process (32-726)
		Placement of order/contract with suppliers	Specifying environmental criteria for supplies & advice on the use of products or services to minimise the environmental impacts.	HIGH	Ensure Environmental requirements are taken into account when placing an order	Placement of order	Specifying environmental criteria for suppliers/service providers .	Tender stage	Buyer		SHE Requirements for the Eskom Commercial Process (32-726)
		Assessing contractors	Failure to make contractors aware of the impact of their deviations from set procedures could lead to negative environmental impacts	HIGH	Ensure that contractors are aware of the impact of their deviations from / non-compliance to set procedures.	Prior commencement of activities	SHEQ File evaluation and approval for tender requirements	Prior commencements of activities	Transmission Environmental Management / Project Manager		SHE Requirements for the Eskom Commercial Process (32-726)
2.1	PROJECT MANAGEMENT	The management of the project according to EMP and relevant environmental legal requirements .	Failure to ensure compliance with the EMP and relevant environmental legal requirements may lead to legal contraventions, customer complaints, claims against the business and damage to the environment and private / state properties.	HIGH	To ensure that the project is effectively managed according to the EMP and all relevant environmental legal and other requirements.	0 Legal Contraventions / 0 Safety Incidents	Through discussing all environmental non-compliances and requirements under an agenda items at the project inaugural meeting and progress meetings, allocating responsible persons and action dates for mitigations.	Duration of project	Project Manager / Contractor		National Environmental Management Act 107 of 1998, Sections 24(5), 24M, 24(2), 24(D) - National Water act 36 of 1998, S21. - Occupational Health and Safety Act 85 of 1993 - OSH Act Construction Regulations of 2003 Sections 23,24,25 and 27. National Water Act: Draft Regulations Regarding The Procedural Requirements For Licence Applications In Terms Of Section 26(1)(K); 12 February 2015, Gg 38465, Gn 126. National Environmental Management Act: Regulations Relating To The Procedure To Be Followed When Oral Requests Are Made In Terms Of Section 30a; 10 April 2015; Gg 38684, Gn 310. National Environmental Management Act: Environmental Impact Assessment Guideline For Renewable Projects, 16 October 2015, Gg 39297; Gn 989.
2.2	PROJECT MANAGEMENT	Assessment & Planning	Failure to conduct line risk assessments and proper planning during the execution of this project activities may lead to environmental and safety incidents and damage to private / state property that may result in disputes with landowners.	HIGH	To ensure that risk assessments and proper planning are conducted to minimise or avoid environmental aspects that might lead to negative environmental impacts	0 Legal Contraventions / 0 Safety Incidents	Environmental requirements can be discussed daily during the toolbox talks. Environmental Risks assessments of the area can be done together with safety observations / assessments. Emergency contact numbers must be available on site. Land owners must be notified of dates contractors will be working in the servitude crossing private properties. Contractors working for Eskom must have identity cards, clearly marked clothing and vehicles.	Duration of project	Project Manager / Contractor		Constitution S 24, 32 National Environmental Management Act (107 of 1998, NEMA) OHS Act (Act 85 of 1993)
2.3	PROJECT MANAGEMENT	Environmental Training & Awareness of contractors.	Lacking environmental awareness / knowledge of Eskom Transmission and other relevant environmental legal requirements may lead to legal contravention, damage to the environment and private property that may result into disputes and claims with landowners.	HIGH	To ensure contractors are aware of environmental requirements i.t.o. the EMP and environmental legal and other requirements	0 Legal Contraventions / 0 Safety Incidents	SHE & Security Induction Training must be provided to all contractors before any project activity may start. Attendance Registers of SHE Induction must be kept by the project manager / BU SHE Depts. and copies included in the contractor's SHE file Environmental Requirements can be highlighted daily during the toolbox talks to refresh workers minds on what is required. Relevant training requirements must be identified up front before tender award and will be checked during tender approval and SHE file evaluations and approvals.	Duration of project	Project Manager / Contractor		Constitution S 24, 32 National Environmental Management Act (107 of 1998, NEMA) OHS Act (Act 85 of 1993)
2.4	PROJECT MANAGEMENT	During / Final Construction Audits	Failure to conduct during and final construction audits on a regular basis during the course of the project can result in non compliances that are overlooked and failure to mitigate environmental incidents that have occurred.	HIGH	To ensure that non compliances or NCRs are picked up during construction activities and rectified / mitigated a.s.a.p. after it occurred. To conduct a final construction audit to ensure that the project is completed without any non compliances and NCRs open.	0 Legal Contraventions / 0 Safety Incidents	During construction audits must be conducted on a weekly basis by conducting site visits to where activities of the project are taking place. A Final construction audit must be conducted on project completion. Objective evidence of close out of previous NCRs if any. During / Final constructions audits can also be conducted by the relevant Environmental professional at any given time. NCRs will be raised for non-conformances.	Duration of project On project completion Duration of project	Project Site Supervisor / SHE Rep Project Site Supervisor / SHE Rep BU Environmental Professional Project Manager / BU Environmental Professional.		Constitution S 24, 32 National Environmental Management Act (NEMA) OHS Act (Act 85 of 1993)



3.1	VEGETATION MANAGEMENT & BUSHCLEARING	The cutting of indigenous vegetation and the cutting of protected plant and tree species	Resulting into a legal contravention. Financial and legal prosecution implication from the authorities and or private property owners.	HIGH	To ensure that no indigenous vegetation and protected tree are cut / plants removed / transported without a permit.	0 Legal Contraventions	Any Eskom staff / contractors must undergo SHE & Security Induction prior to the start of any project. Relevant Eskom staff / contractors must have done tree identification training prior to them starting with any bush clearing program. Permits must be obtained from the Dept. of Agriculture & Forestry before any protected tree is cut. Tx Landowner Approval Certificate / Consent form must be completed prior to the start of the project and landowners must sign off on status of property after completion of any bush clearing activities.	Before project start On contract award / before project start Before project start Before entering servitude / private property Before leaving servitude / private property	Project Manager / Contractor / Site supervisor Contractor BU Env Department Contractor / Site Supervisor	NWAREG 704 S7; NVFFA S16; NFA S7; NFA SS 8-11, SS 12-16; GN 897/2006, GN 817/2007 S7(1), S15(1); NEM:BDA REGS S52, S56(1); NEM:BDA REGS 151-152; NEM:BDA REGS R138; NEM:BDA CH 7; NEM:BDA REGS 149 CH 6; NEM:PAA S9-10, S45(1), S46(1), S48(1), S50(5); NEM:PAA R1061 National Environmental Management Act, Act 107 of 1998 Section 28 Duty of care and remediation of environmental damage. - National Water Act, Act 36 of 1998, Section 19 prevention and remedying effects of pollution. - Hazardous Substances Act No 15 of 1973, Sec 1 - 2 Classifies hazardous waste into groups. - Occupational Health and Safety Act Hazardous Chemical Substance Reg 1179 Section 15 disposal of hazardous chemical substances. - Environmental Management: Waste Management Act, 59 of 2008 Sec 21 General requirements for storage of waste, Sec 25 Duties of persons transporting waste, Sec 26 Prohibition of unauthorised disposal. - Basil Convention, Annexure 2.3 and article 4 and 12, Rotterdam Convention Article 1,2 and 9
3.2	VEGETATION MANAGEMENT & BUSHCLEARING	Proliferation of Alien Invasive species	It is legally non-compliant to allow alien species to proliferate. Sites should be monitored continuously to control spread of alien species.	HIGH	To ensure that Alien Invasive species are removed according to legal and other requirements.	0 Legal Contraventions	To ensure alien invasive species are included in scope of work during bush clearing programmes To ensure contractors / staff are trained on tree identification Method statement on removal and disposal of alien invasive species in SHE files Quality checks on scope of work completed	Before project start On contract award Before project start Duration of project	Project Manager / Contractor Contractor BU Env Dept. BU Lines & Servitude Supervisor	Fertilizers, Farm Feeds, Agricultural Remedies & Stock Remedies Act No 36 of 1947, GN R383 of 1983-02-25. CARA S2, S6, S(4)(5), S7, S10, S18(1)(b); CARAREG R1048 S14, CARAREG R1048 SS15-16; AGPA S3, S5, S6;
3.3	VEGETATION MANAGEMENT & BUSHCLEARING	Herbicide Application	Incorrect application of herbicide can lead to environmental degradation. Leaching of herbicide can affect groundwater and neighbouring farms. Financial and legal prosecution may also arrived out of such a contravention.	HIGH	Ensure herbicides are applied in accordance with legal requirements	0 Legal Contraventions	Only contractors in possession of a PCO licence and accredited can apply herbicide within the terms and conditions of the contract and legal requirements. Contractor PCO Licence holders must be on site during herbicide application Herbicide application must be done as soon as vegetation has been removed to avoid regrowth A Herbicide Application register must be kept on site and copies must be submitted to the BU Lines & Servitude supervisor.	By contract award / project start Duration of project Duration of project Duration of project	Project Manager / Contractor Contractor Contractor Contractor / Lines and servitude supervisor	
3.4	VEGETATION MANAGEMENT & BUSHCLEARING	Bush clearing in sensitive / protected areas such as: National parks Privately owned game reserves / farms Rivers / riverbanks 500m from Wetlands / water bodies Proclaimed protected areas Graves sites	If bush clearing is done indiscriminately there is the possibility of affecting protective / sensitive ecosystems systems negatively and enhance erosion in the servitude.	HIGH	To ensure that good vegetation management practices according to legal and other requirements	0 Legal Contraventions	Working according to established bush clearing program for bush clearing in servitudes Tx Landowner Approval certificate / consent form must be completed and signed off by contractor / site supervisor / landowner before and on completion of project Identify and obtain all relevant permits required i.t.o. legislation prior to the start of any project activity. To include sensitive / protected areas in scope of work for relevant bush clearing programmes	Duration of project Before entering servitude / private property Before leaving servitude / private property after work completion Before project starts / kick-off On task order award for project activity to start	Project Manager / Contractor Contractor / Site Supervisor BU Env Dept. BU Lines & Servitude supervisor	
4	ACCESS	Use of access roads	The incorrect use of access roads in areas, which are prone to erosion, especially during wet conditions can lead to serious erosion. This can eventually make the entire area inaccessible and can affect the landowner's farm's carrying capacity. Damage to access roads and property can lead to claims and legal disputes and rehabilitation cost incurred.	HIGH	To use access roads which belongs to land owners on private property responsibly according to legal and other requirements, EMP, method statements	0 Legal Contraventions	To capture the condition of any access road prior to the start of the project to report and keep for record purposes. All defects / damages occurring during the project should be reported, rectified immediately on occurrence. The onus is on the contractor to be responsible for any rehabilitation on site/s should it damage / pollution incidents resulted from this project. Landowner's consent must be obtained prior to the start of the project and landowners must sign off on status of property after completion of any project activities.	Before project starts Duration of project Duration of project Before entering servitude / private property Before leaving servitude / private property	Project Manager / Contractor Contractor Contractor Contractor / Site Supervisor	CONSTITUTION S24, S32; NEMA S2, S24, S35, S31; NWA S51, S19; ECA S19, S19A, AA, S20, S20(9), S31A; GP-AN 2030 S44(2)(b)(h); NW-AN 2030 S44(2)(b)(h); AORRDA S9(1), S9A; ESKA S12(1)(2); FA S10-11, S21, S23-27; NFA S26; NVFFA S12, S13, S15-18; NEM:AA (SECOND AMENDMENT ACT NO 8 OF 2004); NEMA S24 (A-I); NEMA REG R385, R386, R387; ECA S22; NWA S41; NHRA (NO 25 OF 1999) S38; MPRDA (NO 28 OF 2002) S 107(1), S5(4); NWAREG R104 S1, S6, S7; PIE; RLRA; ESTA; LTA; CARA S2, CARAREG R1048, S14, NWAREG 704, S7. Eskom Access to to Farms Standard (32-1173)

5	SOCIAL INTERACTION	Public / Landowner Complaints	Inappropriate activities, activities in non-compliance to the EMP, legal and other requirements may lead to customer complaints.		To ensure that public complaints are address and successfully resolved.	Resolution / Management of public and landowner complaints	All public complaints must be kept in a register with proof of resolution on the site SHE file. All public complaints must be reported to the relevant BU Env Dept. under which the project is executed. BUS to record and monitor public / landowner complaint until resolved Public complaints must be closedo ut on project completion / handover to the BU	Duration of project Duration of project Duration of project Project completion	Project Manager / Contractor Contractor BU Env Dept Project Manager / Contractor		
6.1	WILDLIFE INTERACTION	Bird Nests	The removal of protected bird nest from towers, buildings and apparatus without a without authorisation will lead to a legal contravention. Injuring and killing of red data / protected bird species.		To remove bird nests posing a risk to the tower i.t.o. quality of supply etc. according to legal and other requirements.	0 Legal Contraventions / 0 public complaints	Identify affected towers where nest removal are required and report for mitigation. Consultation must be made with Endangered Wildlife Trust for removal of protected bird nests . All protected Bird nests requires a permit for removal from the Provincial DEA / relevant national parks authority. Obtain relevant bird nest removal permit Any nest including Red Data / Protected bird nests identified should NOT be removed until the chicks have fledged and left the nest (only in an emergency situation). For assessments contact relevant env practitioner and (EWT).	Before / Duration of project Before project start Duration of project Duration of project	Project Manager / Contractor BU Env Dept Contractor Project Manager / Contractor		Game Theft Act 105 of 1991section 3 - National Environmental Biodiversity Act 10 of 2004 - CITIES (Convention of Traded in Endangered Species) - NEM:Biodiversity Act REGS 151,152, R138, 149(CH6); NEM:BDA CH7; NEM:BDA S52, S56(1); - NEM:Protected Areas Act (2004) S9-10, S45(1), S46(1), S48(1), S50(5); Game Theft Act 105 of 1991section 3 - National Environmental Biodiversity Act 10 of 2004 - CITIES (Convention of Traded in Endangered Species) - Provincial Nature Conservation Ordinances - AGPA S3, S5, S6; AGPAREG 110, 111, R276; - National Conservation Ordinance no 8 of 1969 - NEM:Biodiversity Act REGS 151,152, R138, 149(CH6); NEM:BDA CH7; NEM:BDA S52, S56(1); Species specific Biodiversity Management Plans - NEM:Protected Areas Act (2004) S9-10, S45(1), S46(1), S48(1), S50(5);
6.2	WILDLIFE INTERACTION	Bird / wildlife / animal electrocutions and collisions with powerline infrastructure.	Bird / Wildlife fatalities can be due to electrocutions and collisions plant infrastructure. This may cause failure of equipent and interruption of supply. Killing of protected & endangered species.		To ensure bird electrocution / collisions are reported.	0 Legal Contraventions / 0 plant failures or interruption of supply	To report occurrences of bird incidents to the BU Environmental Dept and EWT	Duration of project	Project Manager / Contractor		- NEM:Protected Areas Act (2004) S9-10, S45(1), S46(1), S48(1), S50(5); - NEM:Protected Areas Act R1061; Free State -Nature Conservation Ordinance S2, SS 3&5, Chapter 3, Chapter 5A;
6.3	WILDLIFE INTERACTION	Interaction between people and animals.	The injuring or killing of animals accidentally with vehicles can lead to claims against Eskom. Interaction with dangerous animals can lead to employee fatalities / injuries		To ensure that vehicles are driven responsibly with caution and legal / safe speeds. That all wildlife incidents are reported for investigation and mitigaion.	0 Legal contraventions / claims / safety incidents	To conduct detailed risk assessments of areas where work needs to be done To identify servitudes with game camps keeping dangerous animals eg) lion, buffalo, etc before entering property / servitude To establish landowner requirements upfront on entering areas where dangerous animals are kept To keep and maintain a Environmental Incident register on site which includes Wildlife Incidents. To report such incident at to the Project Manager immediately after occurrence.	Before / Duration of project Before project start Before / Duration of project Duration of project Duration of project	Project Manager / Contractor Project Manager / Site supervisor Project Manager / Contractor Contractor Contractor		CONSTITUTION S24, S32; NEMA S2, S24, S35, S31; NWA S51, S19; ECA S19, S19A, AA, S20, S20(9), S31A; GP-AN 2030 S44(2)(b)(h); NW-AN 2030 S44(2)(b)(h); AORRDA S9(1), S9A; ESKA S12(1)(2); FA S10-11, S21, S23-27; NFA S26; NVFFA S12, S13, S15-18; NEM:AA (SECOND AMENDMENT ACT NO 8 OF 2004); NEMA S24 (A-I); NEMA REG R385, R386, R387; ECA S22; NWA S41; NHRA (NO 25 OF 1999) S38; MPRDA (NO 28 OF 2002) S 107(1), S5(4); NWAREG R104 S1, S6, S7; PIE; RLRA; ESTA; LTA; CARA S2, CARAREG R1048, S14, NWAREG 704, S7.
7	DRIVING OF VEHICLES	The incorrect use of access roads, speeding or driving irresponsibly, maintenance of vehicles, causing damage to property or injuring of animals / people.	This can eventually make the entire area inaccessible and can affect the landowner's relations negatively resulting in claims and or civil / criminal liability.		To ensure no environmental damage is cause by vehicles during this project.	0 Claims / Safety incidents	Use existing roads No vehicle maintenance on site or in the servitude or on private property. Be aware of environmental sensitive areas / soil(sand) and steep area Leave gates in the position it was found/ or as agreed by land owner. Damaged locks to be replaced. Record all damage to infrastructure/ towers /anticlimbing devices Vehicles which are not road worthy (i.e. leaking oil) shall not be used or allowed on site.	Duration of project	Project Manager / Contractor		Constitution S24, S32, S33, NEMA S2, S28, S31, S35; PART V OF THE APPA; APPA S27; APPA S36,
8.1	WASTE MANAGEMENT	Domestic / General Waste and litter generated during this project in the servitude. This include uncontaminated building rubble	These types of activities cause pollution and degradation to the environment. Leaving waste under the line and on private property can lead to landowner complaints and claims against Eskom		Waste is handled and dispose of as required by legislation and best practices.	0 Legal contraventions / landowner complaints	No waste to be left on site/ servitude after shift ends. Domestic / general waste to be disposed of at the closest registered / licensed municipal waste site. Waste disposal register to be completed for waste disposal and kept on site in environmental and safety file. Retain all waste disposal documentation / records Report waste disposal figures to BU Env Dept.	Duration of project Duration of project Duration of project Duration project / project completion	Project Manager / Contractor Project Manager / Contractor Project Manager / Contractor		NEM: Waste Management Act (2009) Environmental Conservation Act (1989) Eskom Waste Standard (32-245) Constitution S24, S32, S33, NEMA S2, S28, S31, S35; Hazardous Substance Act (S1,2,3); HazAct R452,R453; HazReg R1382; SANS 10228; NRTA REG 225; MINREGS(1998) S4,10,10.2,10.2.1, 10.2.2,10.2.3; OSHA S8,10; OSHA GENERAL SAFETY REGS R1031 S4, S4(9)(a), S4(9)(c); OSHA HAZ CHEM SUBSTANCES REGS R1179 S1, S15(a-f) Eskom Waste Standard (32-245)

8.2	WASTE MANAGEMENT	Hazardous waste including but not limited to asbestos containing material, silica gel, PCBs, oil and oil contaminated soils and materials, chemicals, old herbicides and herbicide containers, pesticides, building rubble contaminated with hazardous waste types, etc.	Hazardous waste are dangerous to humans and animals, causing land, water and ground water pollution. Incorrect handling and disposal may lead to claims against the business and legal contraventions.		Hazardous waste is identified and stored, transported and dispose according to legal and other requirements.	0 Legal contraventions	Hazardous and General Waste waste must be identified and disposed off at a registered hazardous waste site by an hazardous waste contractor. Disposal certificates, waste manifest and weigh bridge receipts must be obtained and available. Copies of any disposal certificate must be submitted to BU Environmental Dept. and records kept in Environmental and safety file. All waste disposal figures must be report to the BU Env Dept monthly A waste disposal control register must be kept on site at all times with disposal figures recorded	Duration of project	Project Manager / Contractor		National Environmental Management Act 107 of 1998, Duty of Care Section 28; National Water act 36 of 1998 section 19, National Environmental Management: Waste Act, Act 59 of 2008, section 16, S21, S24 (b), 25. - Hazardous Substance Act 15 of 1973 (S1,2), SANAS 10228: The identification and classification of Dangerous Goods for Transport National Road and Traffic Act, 93 of 1996 - REG 225; Occupational, Health and Safety Act 85 of 1993 S8, 10 Occupational Health and Safety – Hazardous Chemical Substances R1179 S1, S15(a-f), Asbestos regulations. National Environmental Management Act: Regulations For Admission Of Guilt Fines For Waste Management Offences; 24 July 2015; Gg 39024, Gn 635 Requirements for safe processing, handling, storing, disposal and phaseout of Asbestos and Asbestos containing Material, equipment and articles. (EPC 32-303)" - Environmental Conservation Act, 1989: Regulations 341 for the prohibition of the use, manufacturing, import and export of asbestos and asbestos containing materials
NR	ACTIVITY	ASPECT	IMPACT	SIGNIFICANCE	OBJECTIVE	TARGET	MEANS	DUE DATE	RESPONSIBLE PERSON	Completion Date	Environmental Legislation
9.1	OIL MANAGEMENT	Planning for oil management activities on site.	Incorrect / poor oil management practices can lead to serious ground, ground water / surface water pollution. Oil spill causes serious environmental damage and can lead to health and safety risks for humans and animals. Oil spill that caused damage to the environment and or private property can lead to legal contravention, claims and rehabilitation costs for the business.	HIGH	To ensure that correct planning of oil management activities forms part of the scope of work of any project to minimise and avoid pollution incidents. To ensure all legal requirements are identified well in advance to ensure authorisation, permits are obtained prior to the start of such a project where required . To avoid costly delays in projects while waiting to obtain permits and authorisations.	0 Legal Contraventions	Identify activities involved in oil management in scope of work before project commence. Complete a risk assessment prior to the start of project on the management of all oil spillages, storage, disposal activities. The risk assessment must be verified and signed off by the BU Environmental professional. Establish quantities of oil to be used, stored on or disposed from site. Ensure that an EPP for oil management on site is in place. Ensure that an oil management plans is in place and forms part of the project EMP.	Before project starts Duration of project Before project starts Before project starts	Project Manager / Contractor		Hazardous Substance Act (S1,2,3); HazAct R452,R453; HazReg R1382; SANS 10228; NRTA REG 225; MINREGS(1998) S4,10,10.2,10.2.1, 10.2.2,10.2.3; OSHA S8,10; OSHA GENERAL SAFETY REGS R1031 S4, S4(9)(a), S4(9)(c); OSHA HAZ CHEM SUBSTANCES REGS R1179 S1, S15(a-f); Constitution S24, S32, S33, NEMA S2, S28, S31, S35; NWA S1, S19; GP-AN 2030 S44(2)(B)&(H); NW-AN 2030 S44(2)(B)&(H); NVFFA S12,13,17,18; OSHA HAZ CHEM SUBSTANCES REGS R1179 S3, S3(2), NWA REG 704(5)(1), S2(2)(c), S4, S7, S8; NVFFA CH2,4 S13,15,16,34, CH5.
9.2	Oil Management	Oil disposal	Oil spill that caused damage to the environment and or private property can lead to legal contravention, claims and rehabilitation costs for the business.	HIGH	To ensure that all oil is treated as hazardous waste and disposed according to legal and other requirements.	0 Legal Contraventions	Oil used on site or any oil contaminated material, soil, water, etc. are regarded as hazardous waste and need to be disposed of by an registered hazardous waste consultant to a registered hazardous waste site. On collection of oil / oil contaminated material the appointed contractor must issue a waste manifest for which all detail, such as quantity, dates, site names, etc. must be recorded correctly. After waste disposal a waste disposal certificate, weigh bridge receipt, etc must be obtained from the appointed consultant and details must once again be checked and verified for correctness.	Duration of project	Project Manager / Contractor		
9.3	Oil Management	Oil storage	Incorrect / poor oil management practices can lead to serious ground, ground water / surface water pollution. Oil spill causes serious environmental damage and can lead to health and safety risks for humans and animals. Oil spill that caused damage to the environment and or private property can lead to legal contravention, claims and rehabilitation costs for the business.	HIGH	To ensure that oil storage on site is done according to legal requirements, policy and procedures.	0 Legal Contraventions	Oil storage practices during projects will be based on the following two requirements: 1. Legal Requirements 2. Outcome of risk assessment completed and verified prior to the start of the project. 3. Volumes stored and duration of storage	Duration of project	Project Manager / Contractor		

NR	ACTIVITY	ASPECT	IMPACT	SIGNIFICANCE	OBJECTIVE	TARGET	MEANS	DUE DATE	RESPONSIBLE PERSON	Completion Date	Environmental Legislation
10	Chemical Substance Management	Incorrect storage of Solvents, chemical substances & Paints	Health hazard to humans and environmental pollution	MEDIUM	To ensure that solvent and paints are stored in accordance with legal and other requirements.	0 Legal Contraventions	1. To store all solvents, chemical substances and paints in appropriate storage areas / facilities where chemical / solvent registers are available and updated. 2. The temporary storage of Nitrogen gas cylinders in workshop must be chained to wall (empty / full one). 3. To ensure compliance with Environmental EPP Procedure to address spillages. 4. To ensure MSDS are available at areas where such products are stored and meets the 16 point requirements as set by the OSH Act (1993). 5. To store hazardous chemicals substances which may cause a spillage in bunded areas. 6.. To label demarcated hazardous chemical store.	Duration of project	Project Manager / Contractor		National Environmental Management Act, Act 107 of 1998 Section 28 Duty of care and remediation of environmental damage. - National Water Act, Act 36 of 1998, Section 19 prevention and remedying effects of pollution. - Hazardous Substances Act No 15 of 1973, Sec 1 - 2 Classifies hazardous waste into groups. - Occupational Health and Safety Act Hazardous Chemical Substance Reg 1179 Section 15 disposal of hazardous chemical substances. - Environmental Management: Waste Management Act, 59 of 2008 Sec 21 General requirements for storage of waste, Sec 25 Duties of persons transporting waste, Sec 26 Prohibition of unauthorised disposal. - Basil Convention , Annexure 2,3 and article 4 and 12 , Rotterdam Convention Article 1,2 and 9

12	MOVEMENT IN INDEGENOUS AND SENSITIVE AREAS	Incorrect movement of vehicles / unlawful trespassing during this project in indigenous and sensitive areas could lead to legal contraventions for the substation site causing damage and or pollution to the natural environment. Protected areas / sensitive ecosystems: National parks Privately owned game reserves / farms Rivers / riverbanks 500m from Wetlands / water bodies Proclaimed protected areas Graves sites	Land owners could refuse/restrict access to their properties. Pollution, erosion, damage to the environment.	HIGH	Ensure that no damage in sensitive area to the natural environment takes place. Legal requirements are adhered to	0 Legal Contraventions	Tx Landowner Approval certificate / consent form must be completed and signed off by contractor / site supervisor / landowner before and on completion of project Identify and obtain all relevant permits required i.t.o. legislaion prior to the start of any project activity. To include sensitive / protected areas in scope of work for relevant bush clearing programmes	Before entering servitude / private property Beofre leaving servitude / private property after work completion Before project starts / kick-off On task order award for project activity to start	Project Manager / Contractor BU Env Dept Project Manager	Constitution S24, S32, S33, NEMA S2, S28, S31, S35; NEM:BDA REGS S52, S56(1); NEM:BDA REGS 151-152; NEM:BDA REGS R138; NEM:BDA CH 7; NEM:BDA REGS 149 CH 6; NEM:PAA S9-10, S45(1), S46(1), S48(1), S50(5); NEM:PAA R1061
13	EQUIPMENT MANAGEMENT	Cleaning of Machinery	Chemical pollution is caused by vehicle oils, grease or solvents. Chemical pollution to the environment can lead to a legal contravention and	MEDIUM	To ensure that no machinery is maintained / Cleaned in the servitude / on substation that can result to pollution	0 Legal contraventions and landowner complaints	By inspecting machinery prior to maintenance / project activity starting. Not to make use of the incorrect tools for the job and not to make use of malfunctioning machinery. To ensure all staff and contractors are sufficiently trained in using the machinery correctly. Have records where relevant available in SHE file	Duration of project	Project Manager / Contractor	CA 24, S32; NEMA S2, S28, S35, S31; NEMA REG R385; ECA S19, S19A, S20, S20(9), S31A; ECA:AA (EC AMENDMENT ACT 2003); NWA S1, S19; HAZACT, OHS Act (Act 85 of 1993)
14	Civil Works: Establishment of construction Camps and store. Off -loading construction material and equipment	Site Establishment	Potential negative on the indigenous vegetation when clearing the land for site establishment. Possible damage to construction equipment that might cause contamination of the natural environment, air t, ground and surface water	HIGH	To minimise water wastage and pollution of land and water	0 Legal contraventions and landowner complaints	No camp sites on servitudes / private property or Eskom sites without written consent from landowners / Eskom Management Camp sites must not be located next 100 year flood line of the stream or the river. And 300 meters of the geo-hydrological gradient of the surface water. Ensure proper effluent / sewerage management and implemented. Ensure that all equipments are inspected for possible leaks. Ensure sites have good housekeeping and kept clean	Duration of project	Project Manager / Contractor	National Water Act (Act 36 of 1998) GN R704 of 1999-06-04: Regulations on use of water for miniming and related activities aiming at protection of water resources. GN 1160 Of 1999-10-01 Establishment of the water management areas and their boundaries as a component of the National Water Resource Strategy. GN 1191 of 1999-10-08: General authorisations in terms of section 39 of the National Water Act, 1998. National Water Act 108 of 1997: GN R509 of 2001-06-08: Regulations relating to compulsory national standards and measures to conserve water. Atmospheric Pollution Prevention Act (Act 45 of 1965)GN R1651 of 1974-09-20: Regulations concerning the control of noxious or offensive gases emitted by diesel driven vehiclesGN R1599 of 1977-08-20 Regulations to prohibit the damage of means adopted to prevent the dispersion of matter which may cause a nuisance.
15	Delivery of materials	Heavy vehicles	Oil contamination to natural environment. Potential of hydrocarbon contamination of ground due to spillage or leaks	HIGH	To prevent or minimise pollution incidents resulting from delivery of materials from heavy vehicles	0 Legal Contraventions	No oil leaks, oil leaks to be cleaned with spillage kit. All oil contaminated supersorb to be disposed as hazardous waste.	Duration of project	Project Manager / Contractor	National Roads Act, National Water Act (Act 36 of 1998) GN R704 of 1999-06-04: Regulations on use of water for mining and related activities aiming at protection of water resources. GN 1160 Of 1999-10-01 Establishment of the water management areas and their boundaries as a component of the National Water Resource Strategy. GN 1191 of 1999-10-08: General authorisations in terms of section 39 of the National Water Act, 1998. National Water Act 108 of 1997: GN R509 of 2001-06-08: Regulations relating to compulsory national standards and measures to conserve water. Atmospheric Pollution Prevention Act (Act 45 of 1965)GN R1651 of 1974-09-20: Regulations concerning the control of noxious or offensive gases emitted by diesel driven vehicles R1599 of 1977-08-20 Regulations to prohibit the damage of means adopted to prevent the dispersion of matter which may cause a nuisance.
16	Earthmat	The use of Heavy vehicles. Workers with hand tools	Oil contamination to natural environment. Poor topsoil can result in disturbed areas prone to erosion and invasion of alien plants or bush encroshment possible injury	HIGH	To minimise oil pollution on the natural environment	0 Legal Contraventions	No oil leaks.PPE to be used Should and oil spill occur oil spill kit must be used and contaminated super zorb to be disposed at a registered facilitiv	Duration of project	Project Manager / Contractor	CA 24, S32; NEMA S2, S28, S35, S31; NEMA REG R385; ECA S19, S19A, S20, S20(9), S31A; ECA:AA (EC AMENDMENT ACT 2003); NWA S1, S19; HAZACT, OHS Act (Act 85 of 1993)
17	Excavate new foundations	Heavy vehicles	Oil contaminamination natural environment	HIGH	Minimize contamination to the environment, minize air pollution	0 Legal Contraventions	Top soil excavated may not be removed from site/s without a permit. No archeological found must be destroyed during the excavation process Top soil from escavations must be stored on site and used for backfilling where required Care should be taken to store topsoil and ensure it does not become contaminated with hazardous material eg) oils	Duration of project	Project Manager / Contractor	CA 24, S32; NEMA S2, S28, S35, S31; NEMA REG R385; ECA S19, S19A, S20, S20(9), S31A; ECA:AA (EC AMENDMENT ACT 2003); NWA S1, S19; HAZACT, OHS Act (Act 85 of 1993), SA NATIONAL RESOURCE HERITAGE ACT
20	Backfilling of foundation and trenches and storm water drainage	Compacting machinery workers with hand tools	Possible hydrocarbon contamination with from heavy machinery into the natural environment	HIGH	minimize hydrocarbon contamination to the natural environment, minize air pollution	0 Legal Contraventions	Backfilling must be done according to method statements Backfilling and soil compacting must be done to prevent erosion from occurring after escavations Only use uncontaminated backfilling material Backfilling material brought into site/s must meet legal and other requirements	Duration of project	Project Manager / Contractor	CA 24, S32; NEMA S2, S28, S35, S31; NEMA REG R385; ECA S19, S19A, S20, S20(9), S31A; ECA:AA (EC AMENDMENT ACT 2003); NWA S1, S19; HAZACT, OHS, SA NATIONAL RESOURCE HERITAGE ACT
21	Place steel work into the foundation	Steel off-cuts and steel cutting and gridding	Illegal dumping of steel off-cut waste on the natural environment	HIGH	Ensure that steel off-cuts are stored and disposed in an environmentally friendly manner	No steel off-cuts are disposed on the natural environment	Ensure that the site has adequate waste receptors to store waste prior transportation. All recyclable waste to be recycled with licensed recyclers.	Duration of project	Project Manager / Contractor	CA 24, S32; NEMA S2, S28, S35, S31; NEMA REG R385; ECA S19, S19A, S20, S20(9), S31A; ECA:AA (EC AMENDMENT ACT 2003); NWA S1, S19; HAZACT, OHS Act (Act 85 of 1993),

22	Connect earthing to steel work	Weildind and brazing	Possible fire veld due to uncontrolled sparks	HIGH	Ensure that weilding is controlled	No veld fires are started due to weilding activity / 0 Legal contraventions	All welding areas to have serviced fire extiguishers and all workers to be trained, to use fire extinguisher in the event of fire.	Duration of project	Project Manager / Contractor		CA 24, S32; NEMA S2, S28, S35, S31; NEMA REG R385; ECA S19, S19A, S20, S20(9), S31A; ECA:AA (EC AMENDMENT ACT 2003); NWA S1, S19; HAZACT, OSHA
23	Reinstate yard stone	Heavy machinery and workers with rakes	Oil spillage to the natural environment and possible injury to workers	HIGH	Minimize oil spillage to the natural environment	0 Legal Contraventions	All personell to wear appriate PPE when working on site Stockpiling yard stone to prevent contamination	Duration of project	Project Manager / Contractor		CA 24, S32; NEMA S2, S28, S35, S31; NEMA REG R385; ECA S19, S19A, S20, S20(9), S31A; ECA:AA (EC AMENDMENT ACT 2003); NWA S1, S19; HAZACT, OHS Act (Act 85 of 1993)
24	Cast blinding layer	Use of concrete	Possible concrete spillage during construction.	HIGH	All concrete spills to managed	0 Legal Contraventions	All concrete spills to cleaned before completion of shift	Duration of project	Project Manager / Contractor		CA 24, S32; NEMA S2, S28, S35, S31; NEMA REG R385; ECA S19, S19A, S20, S20(9), S31A; ECA:AA (EC AMENDMENT ACT 2003); NWA S1, S19; HAZACT, OHS Act (Act 85 of 1993)
25	Rehabilitation	Land rehabilitation	Failure to rahabilitate the area may results negatively on the environment e.g soil erosion	MEDIUM	Rehabilitate disturbed areas at the completion of the contract	All disturbed areas successful rehabilitated after completion of contract	Identify indigenous plant for replanting and avoid invader plants . Rehabilitate any damages to property once confirmed through investigation.	Duration of project	Contractor		National Environmental Management Act 107 of 1998
26	Fire Management	Starting of fires due to negligence	Damage to property, fatalites of people and animals / livestock, legal contraventions, claims	HIGH	To avoid fires from Eskom activities / negligence	0 Legal contraventions / claims / safety incidents	No fires allowed to be made on any Eskom site / private property in servitutes Risk assessments to be done for all project activities and precautions / preventative measures to be taken for activities which may pose a fire risk Ensure EPP address fire risks Have emergency contact details in place.	Duration of project	Contractor		NVFFA S12,13,17,18; NVFFA CH2,4 S13,15,16,34, CH5.
27	ADMINISTRATION	Environmental & Safety File	Non compliance to legal requirements and non conformance to other requirements and ocnditions set out in the EMP can lead to servere impacts resulting form the list of aspects identified. Failure to keep relevant and required documents for record purposes can lead to legal contraventions, civil and financial liability Failure to comply with the EMP and other Eskom requirements will result in the issuing of an NCR against the contractor.	HIGH	Ensure documentation system is maintained	0 Legal contraventions / claims / safety incidents	Update documents as activities takes place. Keep all records and documentation with regards to project. Submit reports as required after inspections/investigatio ns/and completion of work All Environmental incidents to be reported.	Duration of project	Project Manager / Contractor		OHS Act (Act 85 of 1993) NEMA EIA Regulations (2010) NEM: Waste Management Act
								Duration of project	Project Manager / Contractor		
								Duration of project	Project Manager / Contractor		
28	REPORTING	Recording and reporting of Environmental related incidents	Failure to report could have a major impact on the environment, human health and well being and could lead to mitigation measures not taken	HIGH	Ensure all incidents are recorded and reported	0 Legal contraventions / claims / safety incidents	To keep and SHE incident register on site To record and report all SHE incidents within 24 hours to Project Manager / BU Env Dept	Duration of project	Project Manager / Contractor		OHS Act (Act 85 of 1993) ISO 14001:2004 Requirements (EMS) - ISO 9001 Requirements (BMS) - Procedure Manual for Perform Occupational Health and Safety Management and Environmental Management : Conduct EH&S Incident Management (EPC 32-95) - EnvironmentalInspections Report for Substation (TRM-FM-0071) - National Environmental Management Act 107 of 1998 section 28 Duty of Care, - National Water act 36 of 1998 section 20 (Control of emergency incidents). - National Environmental Act 107 of 1998 section 30 (Control of emergency incidents) - 240-80662342 : Environmental Monitoring and Measurement work instruction
COMPILED		ADRIAN FRANCIS 					PROJECT MANAGER		WALDO VAN HEERDEN		