

**07072 KIS Replacement of the Seismic Monitoring System Project**

Department	Group	Act number	Activity / Product / Service / Process / System	Aspect	Hazard / Potential Incident	Impact	Risk Category	Initial Frequency	Initial Probability	Initial Severity	Initial Risk Value	Initial Risk Classification	Mitigation	Legal Requirements	Final Frequency	Final Probability	Final Severity	Final Risk Value	Final Risk Classification	Completed	Reviewed	Authorised	Date
<p>Although captured in the mitigations below, prior to performing ANY activity, ALWAYS consider the following: <b>HP TOOLS</b>, i.e. self checking, pre-job / post job brief, peer checking, procedure use, place-keeping, questioning attitude, effective communication, coaching, handover and authorisation and knowledge; <b>OTHER CONTROLS</b>, i.e. monitoring, measurement &amp; inspection; Operational control i.e. procedures; SHE programme; Engineering control</p>													<p>Applicable Legal &amp; other requirements &amp; applicable sections (Eg: National Environmental Management Waste Act no. 59 of 2008, Section 19); National water act, Section X; National Environmental Management Act, Section Y)</p>										
<p><b>OPERATIONAL/ ENGINEERING CONTROL</b> (i.e. bund wall, equipment, procedures)</p>													<p><b>MONITORING &amp; MEASUREMENT</b> (i.e. inspection, monitoring)</p>			<p><b>ADMINISTRATIVE/ PROGRAMME</b> (i.e. training, protective measures)</p>							

**ACT:1 COVID 19**

NPM	KIS	1.1	Transporting of staff members to and from site.	COVID- 19 Pandemic outbreak	Close contact of staff members with the infected personnel	Transmission of Covid-19 virus to personnel	P	1.5	0.0	4.0	5.5	Medium Risk	Drivers to decontaminate and disinfect their vehicle prior picking up of staff members	Medical certificate of fitness to be performed by OCCUPATIONAL HEALTH PRACTITIONER in the form of annexure 3	Use appropriate personal protective equipment. As specified by the National disaster Act 57 of 2002, or Specified in the Latest Eskom Covid-19 Risk assessment.	Occupational HEALTH AND SAFETY ACT NO. 85 OF 1993 Section 8 and Section 14. Compliance with the National disaster Act 57 Of 2002:	1.5	0.0	1.0	2.5	Very Low Risk	Aliana Khudunyane	Ayanda Mphungula	Melvin van Rooyen	2022-11-22
NPM	KIS	1.2	Performing work in the plant areas	Possibility of being in contact with the infected person	Infection and transmission of COVID-19 Pandemic	Illness	P	1.5	0.0	4.0	5.5	Medium Risk	Use of Biological Hazardous waste bin for used disposable masks. Installation of hand sanitisers on various work areas.	Supervisors to monitor and observe workers practising social distances and use of hand sanitisers. Communication with the employees with regard to disposal of disposable masks	Use appropriate personal protective equipment (PPE) (EG. MASKS)(1.5meter) distance maintained.	Occupational HEALTH AND SAFETY ACT NO. 85 OF 1993 Section 8 and Section 14.	1.5	0.0	1.0	2.5	Very Low Risk	Aliana Khudunyane	Ayanda Mphungula	Melvin van Rooyen	2022-11-22
NPM	KIS	1.3	Installation of communication components	Touching of contaminated tools	Contracting/transmission of COVID-19	Illness or ultimate death if not quarantined/treated	P	2.5	1.0	2.5	3.1	Medium Risk	Partitioning boards and floor markings to indicate social distance .	Personnel to be screened before entering job sites	Regularly and thoroughly clean your hands with an alcohol-based sanitizer	World Health Organisation-WHO. Occupational Health and Safety Act No 85 Of 1993.Section 8.	3.0	0.0	4.0	6	medium Risk	Aliana Khudunyane	Ayanda Mphungula	Melvin van Rooyen	2022-11-22
NPM	KIS	1.4	Disposal of face mask	Incorrect disposal of face masks	Pollution to the environment	Damage to the environment and impact on plant and animal life	E	2.5	0.5	1.0	2.5	Medium Risk	Adhere to KAE-012 procedure for hazardous and non hazardous waste disposal	Supervisor to monitor correct disposal/ all disposable mask to be disposed of in medical waste boxes	Environmental awareness through safety talks, job observations and respect to the environment	National Environment Management Waste Act No -59 OF 2002	2.5	-1.0	1.0	2.5	Very Low Risk	Aliana Khudunyane	Ayanda Mphungula	Melvin van Rooyen	2022-11-22

**ACT:2 ACCESS AND EGRESS ON KNPS**

NPM	KIS	2,1	Delivery of Instrumentation to KNPS	Inadequate method statement and risk assessment	Incorrect load placement/material not being secured, materials falling on people,road accidents	Injuries	P	1.0	0.5	5.0	6.5	Medium Risk	materials handling guide :- refer to KGA-114. Secure material to avoid damages.	Ensure that materials/Equipment are secured correctly, Job observations	Operator to have valid Driving licence/Drive Defensively and cautiously/ driver to be medically fit	National road traffic act 93 of 1996	1.0	-1.0	2.0	2.0	Very Low Risk	Aliana Khudunyane	Ayanda Mphungula	Melvin van Rooyen	2022-11-22
NPM	KIS	2,2	Delivery of Instrumentation to KNPS	Incompetent personnel	Incorrect load placement/material not being secured,road accidents	Property damage	A	1.0	0.0	4.0	5.0	Medium Risk	Training on Method statement and Task based risk assessment.	Ensure the understanding of Training material communicated	Pre-job brief and pre trip inspection,Logistics plan to be in place and approved before hand	KSA-132	1.0	-0.5	2.0	2.5	Very Low Risk	Aliana Khudunyane	Ayanda Mphungula	Melvin van Rooyen	2022-11-22
NPM	KIS	2,3	Personnel Using stairs/lifts to move KIS instrumentation.	Lack of situational awareness	Using Stairs without using hand rails/using lift incorrectly	Injuries	P	1.5	0.5	5.0	7.0	Medium Risk	Adhere to warning sign(s) displayed at staircases.	Job Observations. HP tools/always have 3 point contact when ascending or descending the stairs, Never wear safety harness in elevators	She talks/ make use of handrails and never run up or down a staircase	Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) Regulation 8(1)	1.5	-0.5	2.0	3.0	Low Risk	Aliana Khudunyane	Ayanda Mphungula	Melvin van Rooyen	2022-11-22

NPM	KIS	2,4	Personnel walking around general area's of KNPS	Lack of situational awareness	Personnel being exposed to snakes and other dangerous wild life while at KNPS	Injuries	P	1.0	0.5	3.0	4.5	Low Risk	Observing of snake sign posting. Snake Catcher to handle snakes only. Contact JURINA LE ROUX on extension 1257 / 1258 or 083 6633 467	(KAA-708) -2 man rule to apply	SHE talks, Operating experience. It is important to know what different types of snakes look like (colour, size etc.) to assist medical Service or treating. Physician to know what anti-venom to administer. Call emergency services on extension 4222	Occupational Health and Safety Act,1993( Act. No.85 of 1993) Section 14. General Duties of Employee Subsection:(a)-(d) read with Section:21 General Prohibitions Subsection:( c)	1.0	-0.5	2.0	2.5	Very Low Risk	Aliana Khudunyane	Ayanda Phungula	Melvin van Rooyen	2022-11-22
NPM	KIS	2,5	Personnel replacing instrumentation in the plant	Not wearing ear protection	Entering noise zones greater than 85db	Hearing loss (NIHL)	P	2.0	0.5	4.0	6.5	Medium Risk	Adhere to sign posting's on site	Audiogram testing to be done regularly/regular noise surveys must be done by registered occupational hygienist to assess the noise levels	Wear correct PPE (earplugs). Ensure earplugs are correctly inserted into the ear. STAR and pre-job briefing	NIHL Regulations 3,5,8,9 CR 7 (8)	2.0	0.0	0.0	2.0	Very Low Risk	Aliana Khudunyane	Ayanda Phungula	Melvin van Rooyen	2022-11-22
NPM	KIS	ACT: 3	<b>FFD PROCESS</b>																						
NPM	KIS	3,1	FFD vetting process	Access training for personnel	Personnel not doing prescribed FFD training	No access allowed resulting in injuries due to incompetency of employees	P	2.0	0.5	3.0	5.5	Medium Risk	Employees are required to complete all relevant FFD processes and courses	Assigned FFD coordinator to insure the employees are booked on the correct courses	All relevant FFD courses passes to gain access to site.	General Safety Regulations 2c(1)(2)	2.0	0.0	2.0	4.0	Low Risk	Aliana Khudunyane	Ayanda Phungula	Melvin van Rooyen	2022-11-22
NPM	KIS	ACT: 4	<b>DRIVING VEHICLES ON/INTO KNPS SITE</b>																						
NPM	KIS	4,1	Operation of vehicle on KNPS site	Unroadworthy vehicle	Vehicle accidents on or offsite due to unroadworthy vehicle	Injuries	P	2.5	0.5	2.0	5.0	Medium Risk	Correct service intervals must be followed as per vehicle maintenance schedule.	Speed limit to be monitored on site. (Speed limit onsite 35Km/h) vehicle pre inspection checklist to be done.	Driver to have a valid South African drivers licence/Driver to be competent/ drivers to be medically fit	Construction regulation 23(1)(b)(d),iii/national road traffic act 93 of 1996	2.5	0.5	1.0	4.0	Low Risk	Aliana Khudunyane	Ayanda Phungula	Melvin van Rooyen	2022-11-22
NPM	KIS	4,2	Operation of vehicle on KNPS site	Incompetent Operator, Operator disregarding KNPS rules and regulations	Drivers causing accidents onsite.	Damage to property	A	2.0	1.0	2.0	5.0	Medium Risk	All drivers/Operators need to be medically fit and have physical proof of fitness certificate as per man job spec	All employees to be inducted and the validity of fitness checked.	Approved Annexure 3 by OH&S (Declared medically fit)	Construction Regulation 7 (8)	2.0	0.5	2.0	4.5	Low Risk	Aliana Khudunyane	Ayanda Phungula	Melvin van Rooyen	2022-11-22
NPM	KIS	ACT:5	<b>PERSONNEL USING SCAFFOLDING</b>																						
NPM	KIS	5,1	Use of scaffolding	Unsafe access and use of scaffolding	Slips trips and falls at same level	Injuries	P	3.0	0.5	3.0	6.5	Medium Risk	Insure green safety tag is on scaffolding and has not expired	Pre job brief/Scaffolding inspections every 7 days or after inclement weather	Working at heights training. HP Tools. Toolbox talks. STAR 2M-Rule.Wear correct PPE as per job specific risk assessment	Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) Regulation 8(1)/ SANS 10085-1:2004/ GSR 2	2.0	0.0	1.0	3.0	Low Risk	Aliana Khudunyane	Ayanda Phungula	Melvin van Rooyen	2022-11-22
NPM	KIS	5,2	Use of scaffolding	Unsafe access and use of scaffolding	Fall from heights	Serious injuries/Permanent disability	P	3.0	0.5	2.0	5.5	Medium Risk	Use safety harness	Pre job brief/Safety inspections	Working at heights training. HP Tools. Toolbox talks. STAR 2M-Rule. Wear correct PPE as per job specific risk assessment.	Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) Regulation 8(1)/ SANS 10085-1:2004	3.0	-0.5	1.0	3.5	Low Risk	Aliana Khudunyane	Ayanda Phungula	Melvin van Rooyen	2022-11-22
NPM	KIS	5,3	Use of scaffolding	Unsafe use of tools while working on scaffolding	Tools and materials falling	Damage to plant and equipment	A	2.0	0.5	4.0	6.5	Medium Risk	Setup drop zone/Use of tool lanyards	Pre job brief/Job observations	Working at heights training. HP Tools, Toolbox talks. STAR 2M-Rule and wear correct PPE as per job specific risk assessment.	Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) Regulation 8(1)/ SANS 10085-1:2005	2.0	0.0	2.0	4.0	Low Risk	Aliana Khudunyane	Ayanda Phungula	Melvin van Rooyen	2022-11-22
NPM	KIS	ACT: 6	<b>PERSONNEL USING OF LADDERS</b>																						

NPM	KIS	6.1	Use of ladder	Unsafe operation and use of ladders	falling off the ladder	Injuries	P	3.0	0.5	2.0	5.5	Medium Risk	Barricade work area/ pre job brief/ assistant to hold ladder	Supervisory and safety inspections/job observations// maintain 3 point contact	Wear appropriate PPE/ working at heights training.	Latest revision of Man Dir/ GSR 13A	2.0	0.0	2.0	4.0	Low Risk	Alliana Khudumyane	Ayanda Phungula	Melvin van Rooyen	2022-11-22
NPM	KIS	ACT: 7	<b>PERSONNEL USING ELECTRICAL TOOLS</b>																						
NPM	KIS	7.1	General electrical tools	Utilisation of electrical tools to install Handemed communication instruments	Defective electrical tools	Serious injuries	P	2.5	0.5	3.0	6.0	Medium Risk	Insure electrical tools are in a good working condition and all safeguards are in place and in a good condition	Tool register and check list to be done	Wear appropriate PPE as per task specific risk assessment	Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) Regulation 8(1) Management directive 009	2.5	-0.5	1.0	3.0	Low Risk	Alliana Khudumyane	Ayanda Phungula	Melvin van Rooyen	2022-11-22
NPM	KIS	7.2	Extension Leads	Utilisation and maintence of hand tools and wiking next to the activity	Unsafe use of extension leads (over load circuit)	Injuries	P	2.5	-0.5	2.0	4.0	Low Risk	Extension leads not to be over loaded/If the lead is a reel type ensure reel is un-wound to minimize over heating.	Electrical tool register and check list to be completed/Pre-job brief	Wear appropriate PPE as per task specific risk assessment/2M/STAR/Good housekeeping practice	Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) Regulation 8(1) Latest revision of Management Directive/ EMR 10 Construction Regulations 24	2.5	-1.0	1.0	2.5	Very Low Risk	Alliana Khudumyane	Ayanda Phungula	Melvin van Rooyen	2022-11-22
NPM	KIS	ACT: 8	<b>PERSONNEL USING HAND TOOLS</b>																						
NPM	KIS	8.1	Hand tools	Utilisation and maintence of hand tools	Pinch points	Hand and finger injuries	P	2.5	1.0	2.0	5.5	Medium Risk	Maintenance of hand tools	Pre-job Brief/2M/STAR	Wear appropriate PPE as per task specific risk assessment.	Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) Regulation 8(1) Latest revision of MAN-DIR	2.5	1.0	1.0	4.5	Low Risk	Alliana Khudumyane	Ayanda Phungula	Melvin van Rooyen	2022-11-22
NPM	KIS	ACT: 9	<b>REMOVAL AND INSTALATION OF INSTRUMENTATION CABLES</b>																						
NPM	KIS	9.1	Cable work	Unsafe work practice	Sharp edge's	finger Injuries	P	2.5	0.5	2.0	5.0	Medium Risk	Use of Permit To Work (PTW) procedure	2M/Tool box talks/Pre-job briefing	Competent person/wear appropriate PPE as per task specific risk assessment	Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) Regulation 8(1), Latest revision of MAN DIR 009.	2.5	-0.5	1.0	3.0	Low Risk	Alliana Khudumyane	Ayanda Phungula	Melvin van Rooyen	2022-11-22
NPM	KIS	ACT:10	<b>PERSONNELL MANUAL HANDLING MATERIALS</b>																						
NPM	KIS	10.1	Material Handling	Inproper manual handling practice of material	Incorrect use of ergonomic practice	Injuries	P	2.5	0.0	3.0	5.5	Medium Risk	Materials handling guide (refer to KGA-114)	Safety Officer to complete adequate inspections/ self checking and assess weight(s) and size(s) of packages	Apply proper lifting techniques by bending knees slightly when lifting object. Use appropriate Personal protective equipment (PPE) (eg. Kidney belts)	Latest revision of Man Dir. Materials handling training. Eskom Guide KGA-114	2.5	-0.5	1.0	3.0	Low Risk	Alliana Khudumyane	Ayanda Phungula	Melvin van Rooyen	2022-11-22
NPM	KIS	ACT:11	<b>EXPOSURE TO ELECTRICITY</b>																						

NPM	KIS	11.1	Electrical exposure	Unsafe use of electrical equipment	Electrical shock	Injuries	P	2.5	1.0	2.0	5.5	Medium Risk	Isolate and lock-out, PTW process	Use of HP tools	Wear correct PPE as per mandatory sign posting and task specific risk assessment	Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) Regulation 8(1)/EMR 22, Construction Regulations 24, Latest revision of MAN DIR 009.	2.5	-0.5	2.0	4.0	Low Risk	Aliana Khudumyane	Ayanda Phungula	Melvin van Rooyen	2022-11-22
NPM	KIS	11.2	Entering Arc flash area	Incompetent personnel	Electricution,Flashover due to defective boards	Injuries and electricution burns	P	2.5	0.5	2.0	5.0	Medium Risk	Isolate and apply lock out procedure,Use of Permit To Work (PTW) procedure34-226	Arc flash suits, HP Tools, peer cheking , supervision.	Procedure:GGS 36-942 OH&S staff entering or passing through rooms with electrical switchgear to undergo arc flash training. Adhere to MANDIR 009/GGS 36-942 in terms of wearing category 2 Electrical clothing to be worn. Access to electrical switchgear rooms is strickly controlled.	Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) Regulation 8(1), Latest revision of MAN DIR 009.	2.5	-0.5	1.0	3.0	Low Risk	Aliana Khudumyane	Ayanda Phungula	Melvin van Rooyen	2022-11-22
NPM	KIS	ACT:12	<b>OFFICE WORK</b>																						
NPM	KIS	12.1	Office	Improper settings of office screens	Working on computer being exposed to glare and sunlight	Headache, eye strain	P	1.0	1.0	2.0	4.0	Low Risk	Anti-glare devices and screenso be fitted to computer monitors. Proper computer contrast Adjustments.	Regular checks to be done to ensure correct LUX levels	SHE induction and awareness	Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) Regulation 8(1)	1.0	-0.5	2.0	2.5	Low Risk	Aliana Khudumyane	Ayanda Phungula	Melvin van Rooyen	2022-11-22
NPM	KIS	12.2	Office	Improper seating posture	Working on computers, sitting position practicing poor ergonomics at work station and usage of defective furniture.	Work related upper limb disorder, repetitive strain	P	2.5	1.0	3.0	6.5	Medium Risk	Use of footrest/correct work station layout/ergonomically friendly chair and Immediate replacement of unsuitable furniture.	Ergonomics assessment/job observations/avoid long working sessions	SHE induction and awareness	Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) Regulation 8(1)	2.5	0.0	2.0	4.5	Low Risk	Aliana Khudumyane	Ayanda Phungula	Melvin van Rooyen	2022-11-22
NPM	KIS	ACT:13	<b>WASTE</b>																						
NPM	KIS	13.1	Radiological waste disposal.	Incompetent personnel	Incorrect handling of radioactive waste	Contamination /damage to	P	1.5	1.0	0.1	2.6	Low Risk	Adhre to KAE-012 process for Hazardous and non- hazardous waste and scrap disposal. Procedure adherence- KSA-138 Nuclear services standards and expectations.	SHE Representative/ or Safety Officer to monitor.	Training, Pit and Rad workers training, access to nab, fuel building.	HAZACT (R247: GRP IV Hazards relate to ionising radiation)Chapter 3Sec7,8- Provision of means to mointor and control exposure to ionising radiation,SEC.21,22- Management of Exposure and dose tracking. KAA-634. Alara.	1.5	-0.5	1.5	4.0	low Risk	Aliana Khudumyane	Ayanda Phungula	Melvin van Rooyen	2022-11-22
NPM	KIS	13.2	Waste disposal	Incorrect disposal of hazardous and non-hazardous waste and scrap	Environmental pollution	Contamination/damage to enviroment	E	2.5	-0.5	1.0	3.0	Medium Risk	Adhre to KAE-012 process for Hazardous and non- hazardous waste and scrap disposal	SHE Representative/ or Safety Officer to monitor.	Environment awareness and impact on micro-organism, plant and animal life. Keep all records of wast/scrap disposal. Respect Environment	NEMA No.59 of 2008	2.5	-1.0	1.0	2.5	low Risk	Aliana Khudumyane	Ayanda Phungula	Melvin van Rooyen	2022-11-22
NPM	KIS	ACT:14	<b>Control Zone entry</b>																						

NPM	KIS	14.1	Working in Controlled Zones	Inspections, Surveys, Equipment-Decon, Mechanical work, Supervision and testing	Radiological Contamination	Illness	P	2.5	1.0	3.0	2.5	Medium Risk	RPC compliance. KSA-129: Hazloc Management at knp station, KAA-637: Access control to Radiological Controlled Zones.	Monitoring and Peer Checking/Supervision.	Rad workers training, Correct wearing of dosimetry(EPD/TLD), Practice ALARA. Correct decon techniques	Occupational Health and Safty Act1993 Section 8(1)Working procedure in hazardous areas	3.0	0.5	1.0	4.5	Low Risk	Aliana Khudunyane	Ayanda Phungula	Melvin van Rooyen	2022-11-22
NPM	KIS	14.2	Work from Scaffolding/Ladders in CZ	Inspections, Surveys, Equipment-Decon, Mechanical work, Supervision and testing	Ascending or descending ladders/stairs	Injury	P	2.5	0.0	5.0	2.5	Medium Risk	Working@heights procedure 32-418. Use scaffold as per SANS 10085, All handheld tools to be on lanyards and attached to hand. Wear PPE as per Management Directive 009	Peer checking/Supervision. PJB Toolbox talks.KAA-708: 2 Man Rule.	3-Point contact rule when accending/decoding stairs or ladders. Comply with Eskom emergency procedure. Plant induction training, Safety Induction. Use of applicable PPE.	Adhere to Life saving Rules. Develop a comprehensive, Fall Protection plan as per Construction Regulations 10, Risk Assessment as per CR9	2.5	-1.0	3.0	4.5	Low Risk	Aliana Khudunyane	Ayanda Phungula	Melvin van Rooyen	2022-11-22
				Compiled By : ALIANA KHUDUNYANE <i>Aliana Khudunyane</i>	Reviewed By : Ayanda Phungula Sign: <i>Ayanda Phungula</i>							Approved By	Melvin van Rooyen	Sign: <i>Melvin van Rooyen</i>	Date: 2022-11-24										

