Eskom	MATLA POWER STATION SCOPE OF WORK	Document Identifier	14593	Rev	6
		Effective Date	March 2023		
		Review Date	March 2026		

PLANT AREA: Matla Ash Dams TITLE: *LiDAR survey,* Aerial and Bathymetric Survey for all Matla Dams for period of 5 Years.			
REF: MEA-06903	Reference Rev No:1	MULTIDISCIPLINARY: No	Plant Level: 1

COMPILED BY	*Name: Setati Moyaha* *Systems Engineer/End User*	Signature	Date 15/04/2024
APPROVED	*Name: Gavin Phelelo* *Line Manager*	Signature	Date 17/04/2024
APPROVED	*Name: Lindo Ngobese* *Group Manager*	Signature	Date 19/04/2024
REVIEWED	*Name: Dorah Mkhonto* *Quality Department*	Signature	Date 19/04/2024
REVIEWED	*Name:* Lynton Mudau *Occupational Health and Safety*	Signature	Date 12/06/2024
REVIEWED	*Name: Lufuno Tshidzumba* *Environmental Department*	Signature Bethuel Moeng	Date 22/04/2024
ACCEPTED	*Name: N/A* *Outages /Maintenance manager*	Signature	Date
ACCEPTED	*Name: N/A* *AIA*	Signature	Date

NB: Do not tamper with the template.

GENERAL

- Data books, reviews, reports, and diagrams/drawings shall be submitted to Engineering after the completion of the work Engineering to forward the data books to Quality Department (Document Control)
- All QCP's to be submitted to Engineering and Quality for approval prior to outage/project or maintenance work commencement

	SCOPE OF WORK DESCRIPTION / ACTIVITY	PROCEDURE, SPECIFICATION, ENG. REQUIREMENTS / DOCUMENTATION	HOLD POINTS, WITNESS, REPORTS	RESPONSIBLE PARTY
1 1	Occupational Health and Safety	• Health and safety file should be approved by Safety risk management department prior to any work commences on site • All work is to be done in accordance with OHS Act 85 of 1993, Matla plant procedures and Plant Safety Regulations (240-150642762) • Matla power station SHEQ induction must be done before access to site can be granted • The contractor should ensure that all employees have acquired the required competency for the task they are performing • The contractor to ensure compliance to updated legal requirements and other requirements	Eskom to witness	Contractor

1 2	*Environmental Management*	• *All activities listed in the National Environmental Act 107 of 1998, EIA Regulations as* amended, must have environmental **AUTHORISATION** before commencement of work • The contractor shall comply with all applicable legal and other requirements • The polluter pays principle will be applied • The contractor manager shall ensure compliance with Eskom Matla Environmental procedures to ensure the prevention of pollution (refer OMOP 4090 and 4402) • The last payment will be processed based on the status of the last housekeeping check sheet (Annexure C OMOP 4402) of designated area • EMS file based on ISO14001 will be required	*Eskom to witness*	*Contractor*
1 3	Quality Management	• The contractor/executioner of work will be responsible for drawing up all QCP documentation and this must be approved by engineering and authorised by the Quality Department before commencing with the work • Contractors/executioner to adhere to QM 58 and OMOP4497 requirements • Number of NCR issued can affect your next tendering process • The QCP shall be signed progressively by the Engineer/Supervisor, Eskom QC Inspector, Contractor QC Inspector and/or AIA • No procuring of outage items without the approval of scopes by quality	Hold point	Contractor

		• All outage scopes creep and scopes addition should be approved by quality • No contractor should be in the possession of scopes for execution without the scopes approved by quality • The contractor is subjected to quality auditing at any point in time during execution of scope		
1 4	Inputs from other departments			
1 5	Commissioning reference			

DECOMMISION AND/OR PLANT ISOLATION

all Surveys

	SCOPE OF WORK DESCRIPTION / ACTIVITY	PROCEDURE, SPECIFICATION, ENG. REQUIREMENTS / DOCUMENTATION	HOLD POINTS, WITNESS, REPORTS	RESPONSIBLE PARTY
	This scope gives the requirements and specifications for a LiDAR survey, aerial survey, bathymetric survey and sub-bottom profiling of Matla dams, this includes but is not limited to SWR, AWR North, AWR South, Final Cut, Unit 7 Dam, Seepage Dam, Raw Water Dam, Raw Water Pan (waste water), New Ash Dam (North and South Pools) and Dam 1&2			
1 1	**LiDAR survey** Lidar technology is an ideal solution for examining the surface of the earth, assessing information about the ground surface, creating a digital twin of an object, or detailing a range of geospatial information Laser scanning systems harness this technology, using Lidar data to map 3D models and digital elevation			

	Perform a detailed Lidar survey on new Ash Dam facility. The Lidar will also stipulate the height, contour lines, Perimeter Area (m^2) and Ash Volume			
1 2	**Aerial Survey** The creation of a digital orthophoto and digital terrain model (DTM) covering the SWR, AWR North, AWR South, Final Cut, Unit 7 Dam, Seepage Dam, Raw Water Dam, Raw Water Pan, New Ash Dam (North and South Pools) and Dam 1&2 Captured from digital colour photography with the maximum ground sample distance (GSD) of 10 cm The approximate area to survey is 1045 Ha.	All works to comply with SANS	Hold Points	Contractor

	Ground control survey - the survey to tie in with the existing control Datum Cape Lo29			
1 3	**Topographical Survey** Contours to be developed at an interval of 5,0 m and an accuracy of 1,0 m, for SWR,AWR North, AWR South, Final Cut, Unit 7 Dam, Seepage Dam, Raw Water Dam, Raw Water Pan (waste water), New Ash Dam (North and South Pools) and Dam 1&2 The topographical survey must include an area with a minimum of a 2 km radius from the center of each dam The approximate area to survey is 1045 Ha	All work shall be performed in accordance with the latest revision of PSR (36-681)	*Hold Points*	*Contractor*

File name: Sonar survey for period of 5 years

1.4	**Bathymetric Survey** A bathymetric survey of the North and South New Matla Ash ponds, SWR,AWR North, AWR South, Final Cut, Unit 7 Dam, Seepage Dam, Raw Water Dam, Raw Water Pan (waste water), New Ash Dam (North and South Pools) and Dam 1&2, the total area being surveyed is approximately *1045 ha*. Sub- bottom profiling is to be done on all the aforementioned dams as to quantify the ratio between the water and sludge, in terms of volumes and depth A cross section and 3D model is to be created for all of the aforementioned dams, depicting the levels of			

	sludge, water and approximate original footprint of the dams. A pool stage table to be created for each pond showing the volumes at 0,25 m interval from the floor of the pool to the current water level, and the available freeboard at the time of the survey Each interval would reflect the elevation, the area and the volume A color orthophoto of the site is to be provided on coated A0 paper. The combined topographical and bathymetric surveys are to be printed on synthetic map paper			

1 5	**Deliverables** The following need to be submitted by the contractor *to the Auxiliary Plant System Engineer* before commencing with any work • Program plan and quality control plan • Method statement for the execution of the works • *Report and findings on bathymetric survey*, sludge volumes and water volumes • Each dam is to be provided with the following A0 prints: a) Lidar Survey and Ashing Plan b) Aerial Photographs			

	c) Topographical survey with bathymetric survey results superimposed d) Cross sectional and 3D models of dam areas and volumes The information need to be delivered to Eskom in a form of A0 prints on synthetic map paper (bathymetric survey, cross sections and 3D models) and A0 orthophotos, and a soft copy via USB, in PDF format			
1.6	**Quality Requirements** • The Contractor shall make sure that relevant QCP is approved by both Quality department and engineer before commencing of the works. • Work to be done according to scope of work, and SANS standards	ISO 9001:2015 Quality Management Systems – Requirements		

1.7	**Environmental Requirements** • The employee, contractor/ subcontractor will take all reasonable measures to minimise their impact on the environment. • Immediate notification will be sent through to Eskom if an environmental incident occurs • Equipment using diesel or petrol needs to be placed inside drip trays or have drip trays placed underneath them. • Identify and list waste streams and manage waste according to the waste streams	ISO 14001:2015 Environmental Management System		

	SCOPE OF WORK DESCRIPTION / ACTIVITY	PROCEDURE, SPECIFICATION, ENG. REQUIREMENTS / DOCUMENTATION	HOLD POINTS, WITNESS, REPORTS	RESPONSIBLE PARTY

	SCOPE OF WORK DESCRIPTION / ACTIVITY	PROCEDURE, SPECIFICATION, ENG. REQUIREMENTS / DOCUMENTATION	HOLD POINTS, WITNESS, REPORTS	RESPONSIBLE PARTY

RE-COMMISSION

	SCOPE OF WORK DESCRIPTION / ACTIVITY	PROCEDURE, SPECIFICATION, ENG. REQUIREMENTS / DOCUMENTATION	HOLD POINTS, WITNESS, REPORTS	RESPONSIBLE PARTY
1 1	• Re-commission all circuits which were placed out of service for maintenance purposes	All workers shall need to have signed out and the responsible permit holder shall satisfy himself that there are no people still working on the line prior to energization as per PSR (36-681)	OPS & EMD to witness	OPS
1 2	• Equipment used for earthing and isolation	PTM shall ensure that all relevant equipment used for earthing and isolating is removed as per PSR (36-681) requirements and accounted for prior to energization of the line	OPS and EMD to ensure all permits are cleared and the plant is in service	OPS & EMD

BILL OF MATERIAL

	Full description of Material/Spares/Equipment	Specifications of Material/Spares/Equipment	Stock No	Part Number	Required Quantity

1					
2					
3					
4					

SCOPE COMPILATION REFERENCES				
SOURCE & Ref No	Yes	No	N/A	Comments
Previous outage service reports				

Return to service data packages				
Maintenance Strategy with Rev number				
SAP defects (attach list as appendix)				
GHRMS (STEP) reports (Generation Heat Rate Management System)				
Online Condition Monitoring				
Pre-outage performance test results				
Post outage performance test results				
GPSS/ Plant Performance data on UCLF incurred				
OMS / IIRMS recommendations (Audits Reports)				
Risk controls (IRM system)				
Previous audits and reviews (e.g. ERAP)				
Engineering Change Requests (Projects)				
LOPP strategy reports				
URS				
Philosophy (Outage)				
Condition Monitoring Report				
***VA/PHD* Viewer trends**				

Corrective Actions				
CARAB reports				
Statutory Requirements				
Grid code requirements				
Waivers and Exemptions				
Calibration requirements				
Previous Outage SOW variations				
Post Mortems Actions from previous outages				
Pre–Outage plant walks				
Risk based inspection (RBI) report				
Simulation, TOIs, OON, SI				

COMMENTS

ATTACHMENTS: DRAWINGS, SKETCHES, DIAGRAMS, INSTRUCTIONS, etc	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	