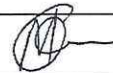




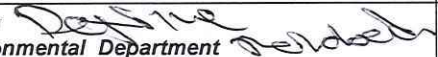



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PLANT AREA: Matla Power Station Stacks(South stack(U1-3 Common) and North Stacks(Unit 4,5 &)			
TITLE: Correlation and Parallel tests SOW			
REF: MEB-054687	Reference Rev No:1	MULTIDISCIPLINARY: No	Plant Level: All
COMPILED BY	Name: Mzwandile Gcaleka Systems Engineer	Signature: 	Date: 08-10-2021
APPROVED	Name: John Makuleka Line Manager	Signature: 	Date: 08/10/2021
APPROVED	Name: Lindokuhle Ngobese (Act) Group Manager	Signature: 	Date: 14/10/2021
REVIEWED	Name:  Quality Department	Signature: 	Date: 14/10/2021
REVIEWED	Name:  Environmental Department	Signature: 	Date: 14/10/2021
ACCEPTED	Name: Outage Manager/Maintenance manager	Signature:	Date:
ACCEPTED	Name: AIA	Signature:	Date:

NB: Do not tamper with the template.

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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	Safety	<ul style="list-style-type: none"> All work is to be done in accordance with Matla plant procedures and safety regulations. (GGR 0992). Matla power station induction must be done before any work commences. Permit to work must be in place before any work commences. Worker's register must be completed and daily risk assessment conducted before any work commences. 	Eskom to witness.	Contractor
1.2	Environmental Management.	<ul style="list-style-type: none"> 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

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1.3	Quality Management	<ul style="list-style-type: none"> 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 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 	Hold point	Contractor
1.4	Inputs from other departments			
1.5	Commissioning reference			

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SCOPE OF WORK DESCRIPTION / ACTIVITY	PROCEDURE, SPECIFICATION, ENG. REQUIREMENTS / DOCUMENTATION	HOLD POINTS, WITNESS, REPORTS	RESPONSIBLE PARTY
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SCOPE OF WORK DESCRIPTION / ACTIVITY	PROCEDURE, SPECIFICATION, ENG. REQUIREMENTS / DOCUMENTATION	HOLD POINTS, WITNESS, REPORTS	RESPONSIB LE PARTY
Note: <ul style="list-style-type: none"> The scope covered on this document must be carried out by a supplier that is SANA's accredited. This is for both correlation and parallel test(QAL2) testing. Full report must be submitted within weeks after correlation test. Stack testers will be require accreditation within a year once ETCerts scheme(stack testers accreditation) is established 		Hold	
Carry out the following full correlation test on dust monitor (PM). On full correlation test minimum 15 test must be carried out. <ul style="list-style-type: none"> South Stack(common Stack for unit 1-3) Unit 4 stack 	This must carried as per Eskom Emission reporting and standard 240-56242363 rev 3. Preliminary report with correlation curves must be supplied within two weeks after correlation test. Fully signed report must be submitted within a month of correlation test. Correlation runs every 2 years	Hold	Supplier
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<ul style="list-style-type: none">Unit 5 stackUnit 6 stack <p>Dust particle size must be done for each correlation testing.</p> <p>N.B The spot-check only when required</p>	<table><tr><th>Unit</th><th>Planned correlation</th><th>Next date</th><th>Next date</th></tr><tr><td>South Stack</td><td>March 2022</td><td>March 2024</td><td>March 2026</td></tr><tr><td>Unit 4</td><td>August 2023</td><td>August 2025</td><td>August 2027</td></tr><tr><td>Unit 5</td><td>August 2023</td><td>August 2025</td><td>August 2027</td></tr><tr><td>Unit 6</td><td>October 2023</td><td>October 2025</td><td>October 2027</td></tr></table> <p>Each unit will require 3 compulsory full correlation test per stack and full 2 correlation test on an ad hoc basis(8). There are 4 stacks therefore total of statutory 12 correlation test will be required and 8 on ad hoc basis as when required.</p> <p>Total 20 correlation tests</p> <p>South Stack(U1-3)</p> <ul style="list-style-type: none">The measuring range for South Stack is 18 metersThe monitor on the South Stack is located externally to the stack and workforce will be expensed to weather conditions.A Rack and pinion lift is installed and available for use.Correlation test ports are available on the same level as dust/gas monitors. <p>North Stack(U4-U6)</p> <ul style="list-style-type: none">The measuring range of the monitors is 7.5 meters	Unit	Planned correlation	Next date	Next date	South Stack	March 2022	March 2024	March 2026	Unit 4	August 2023	August 2025	August 2027	Unit 5	August 2023	August 2025	August 2027	Unit 6	October 2023	October 2025	October 2027
Unit	Planned correlation	Next date	Next date																		
South Stack	March 2022	March 2024	March 2026																		
Unit 4	August 2023	August 2025	August 2027																		
Unit 5	August 2023	August 2025	August 2027																		
Unit 6	October 2023	October 2025	October 2027																		

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		<ul style="list-style-type: none"> The monitors are located internally to the windshield and the workforce will be protected from weather conditions Rack and pinion lift is available for use Correlation test ports are located one level above the monitors 		
	Carry out dust monitor spot check(4)	South Stack(U1-3) <ul style="list-style-type: none"> The measuring range for South Stack is 18 meters The monitor on the South Stack is located externally to the stack and workforce will be expensed to weather conditions A Rack and pinion lift is installed and available for use. Correlation test ports are available on the same level as dust/gas monitors North Stack(U4-U6) <ul style="list-style-type: none"> The measuring range of the monitors is 7.5 meters The monitors are located internally to the windshield and the workforce will be protected from weather conditions Rack and pinion lift is available for use Correlation test ports are located one level above the monitors Total 4 spot check tests		
	Carry out test to determine emissions during following conditions <ul style="list-style-type: none"> Light up conditions(x6) When SO3 is not available with various loads(x6) 	Requirement Each stack must be done once every 2 years.	Hold	Supplier
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	<ul style="list-style-type: none"> Breakdown(Low loads due to plant breakdown)(x6) 	South Stack(U1-3) <ul style="list-style-type: none"> The measuring range for South Stack is 18 meters The monitor on the South Stack is located externally to the stack and workforce will be expensed to weather conditions. A Rack and pinion lift is installed and available for use. Correlation test ports are available on the same level as dust/gas monitors. North Stack(U4-U6) <ul style="list-style-type: none"> The measuring range of the monitors is 7.5 meters The monitors are located internally to the windshield and the workforce will be protected from weather conditions. Rack and pinion lift is available for use. Correlation test ports are located one level above the monitors. Total 18 tests		
	Carry out stratification tests as when required (4).	After major upgrade or change on the abatement technology, stratification test is required. Total 4 stratification.	Hold	Supplier
	Carry precips efficiency test as when required (6). This will include air distribution on precips, dust burden (particle size distribution) on each cell and any other performance related.	This include but not limited to airflow distribution, velocities and dust burdened. This may include dust sampling and analysis. Total 6 stratification.	Hold	Supplier
	Parallel/QAL2 Tests			

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	<p>Carry out parallel/QUAL2 tests as follows</p> <ul style="list-style-type: none">• South Stack(common Stack for unit 1-3)• Unit 4 stack• Unit 5 stack• Unit 6 stack <p>N.B Total tests required 15</p>	<p>This must carried as per Eskom Emission reporting and standard 240-56242363 rev 3 Preliminary report with correlation curves must be supplied within two weeks after correlation test. Fully signed report must be submitted within a month of correlation test.</p> <table><tr><th>Unit</th><th>Next Parallel date</th><th>Next date</th><th>Next Date</th></tr><tr><td>South Stack</td><td>November 2022</td><td>November 2024</td><td>November 2026</td></tr><tr><td>Unit 4</td><td>October 2022</td><td>October 2024</td><td>October 2026</td></tr><tr><td>Unit 5</td><td>February 2023</td><td>November 2025</td><td>November 2027</td></tr><tr><td>Unit 6</td><td>October 2022</td><td>October 2024</td><td>October 2026</td></tr></table> <p>Parallel tests consist of 15 tests</p> <p>3 compulsory test per stack as per table above and 4 ad hoc therefore 18 parallel (QUAL2 test are required</p> <p>Total Parallel test required is 16.</p> <p>Full report must be submitted within weeks after correlation test</p>	Unit	Next Parallel date	Next date	Next Date	South Stack	November 2022	November 2024	November 2026	Unit 4	October 2022	October 2024	October 2026	Unit 5	February 2023	November 2025	November 2027	Unit 6	October 2022	October 2024	October 2026	Hold	Supplier
Unit	Next Parallel date	Next date	Next Date																					
South Stack	November 2022	November 2024	November 2026																					
Unit 4	October 2022	October 2024	October 2026																					
Unit 5	February 2023	November 2025	November 2027																					
Unit 6	October 2022	October 2024	October 2026																					

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SCOPE COMPILATION REFERENCES				
SOURCE & Ref No.	Yes	No	N/A	Comments
Previous outage service reports			X	
Return to service data packages			X	
Maintenance Strategy with Rev number			X	
SAP defects (attach list as appendix)			X	
GHRMS (STEP) reports (Generation Heat Rate Management System)			X	
Online Condition Monitoring			X	
Pre-outage performance test results			X	
Post outage performance test results			X	
GPSS/ Plant Performance data on UCLF incurred			X	
OMS / IIRMS recommendations (Audits Reports)			X	
Risk controls (IRM system)			X	
Previous audits and reviews (e.g. ERAP)			X	
Engineering Change Requests (Projects)			X	
LOPP strategy reports			X	
URS			X	
Philosophy (Outage)			X	
Condition Monitoring Report			X	

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

COMMENTS

Compiled by: Mzwandile Gcaleka

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