

**SOMASUNDRAM RENGARAJ****Job application for Electrical Discipline – Oil (Refineries) & Gas (GTL)****License - CompEx, FOET with EBS (BOSIET) & HV, MV & LV****Total Experience – 23+ Years****Language – English, Hindi & Tamil****Contact. No - +91 9524033412 (India)****Email – [somasundramsrgm@gmail.com](mailto:somasundramsrgm@gmail.com)****Current Location – Trichirappalli (INDIA)****PASSPORT DETAILS :****Passport No : V7410575 Valid Up to : 10 –FEB-2032****Place of Issue : Tiruchirappalli, India****SUMMARY :**

**3 Years Diploma In Electrical & Electronics Engineering with 23+ Years of Experience in Engineering, Supervising, Operation and Maintenance in the Field of Construction, Pre-commissioning, commissioning, Start up, Performance Test, Operation and Maintenance for Oil & Gas industries, petrochemical, Refinery, MV Power Generation, HV Transmission and distribution projects with international operators and contractors for full project life cycle as an Engineer/Supervisor worked with a client base that SASOL/CTRG/GREENVILLE O&G/OIL INDIA/NIKO RESOURCES & CAIRN ENERGY**

**EMPLOYMENT AND PROJECT DETAILS :**

- 1) Name of the Concern :** On a Job Search  
**Designation :** Electrical Multi-skilled  
**Period :** 01.06.2023 – Till
- 2) Employer Name :** M/s Greenville Oil & Gas Company Ltd, Nigeria  
**Designation :** Electrical Supervisor  
**Period :** 07.01.2016 – 20.05.2023  
**Nature of the Job :** LNG Process Train & Plant Electrical Equipment's Construction, Pre-commissioning, Commissioning & Maintenance
- 3) Name of the Clients :** M/s SASOL, RSA, M/s CTRG, Mozambique, M/s Oil India, India  
**Employer Name :** M/s Wartsila  
**Designation :** Electrical Supervisor  
**Period :** 02.06.2005 – 30.09.2015  
**Nature of the Job :** Oil Refineries Process Plant & HPCMS Electrical Equipment's Construction, Pre-commissioning, Commissioning & Maintenance
- 4) Name of the Clients :** M/s NIKO Resources Ltd, India & Cairn Energy, India  
**Employer Name :** M/s Gmmco Ltd  
**Designation :** Electrical Engineer  
**Period :** 03.06.1999 – 30.05.2005  
**Nature of the Job :** Oil Refineries Plant Electrical Equipment's Maintenance

**EDUCATIONAL QUALIFICATION :**

- Discipline :** Diploma In Electrical & Electronics Engineering (3 Years)  
**Year :** 1996 – 1999  
**University :** State Board of Technical Education, Tamilnadu (India)  
**Name of the Collage :** Seshasayee Institute of Technology (SIT), Tiruchirappalli.  
**Grade & CGPA :** First Class & 68.14

## **FIELD OF COMPETENCE & CERTIFICATIONS :**

- High Standard of analytical, diagnostic, technical and professional knowledge on Electrical systems, components and procedures.
- Experience of the needs of other disciplines and how these link to the electrical discipline, particularly – Instrumentation, Process Piping, Control Systems, Mechanical, Constructions, Commissioning, Operation and Maintenance.
- Significant experience of working on the construction and commissioning of Brownfield projects (onshore) within the oil and gas industry
- Experience on different control and safety systems (**PDCS/ DCS/ ESD**)
- Hands on Experience in substation Pre-commissioning, commissioning and operation of High voltage systems **Siemens/ABB/ GE** equipment's up to **275kV**
- Experience in Functional test for Electrical equipment's at Main control Room & Field
- Hands-on working Experience in Construction, Pre-commissioning, commissioning, Start –up and process operation activities in downstream section of Oil & Gas Industry
- Well versed in review drawings and preparation of technical query for deviation from project specification and standards
- Authorized competent Electrical Person (**CEP**) and Isolation authority (**LOTO**) up to **275kV** by **SASOL**
- Competent in **CompEx/ATEX** for modules Ex01 – Ex04 to work on Ex rated equipment (**Certificate Valid till 01-Sep-2029**)
- Competent in Certificate of **Competency for Electrical Supervisors** (HV License -400kV) from The Electrical Licensing Board, Government of Tamilnadu (India) (**Certificate valid till 08 – SEP-2026** )
- ABB Trained for Electrical/Mechanical Operation Prospective of all components of up to 275kV outdoor
- Competent in **SAP (MM & PM), CMMS, MAXIMO** modules
- Competent in Automatic Voltage regulator (**AVR**) troubleshooting & Maintenance

## **PROFESSIONAL EXPERIENCE :**

### **1) CONSTRUCTION :**

- ⇒ Review and acceptance of supplied drawings, procedures, job instruction, design documents, site queries, material deliveries and tools
- ⇒ Identify requirements and scope of work, JSA, Procedures for commissioning as per the standards
- ⇒ Monitor contractor performance and provide advice as necessary to ensure design and specifications are achieved
- ⇒ Plan, Monitor, coordinate with different vendors like ABB, Siemens, Schneider and GE to carryout required test on drives, switchgear, transformers and get Inspection test report (**ITR**)
- ⇒ Prepare punch list for finished work and clear prior handover to client by paying special attention to all equipment including QC until all deficiencies are corrected
- ⇒ Follow up for the delivery of material / equipment required as per the work schedule to ensure the material availability in the scheduled time at site
- ⇒ Effectively manage interfaces between new and existing facilities
- ⇒ Confirm preservation checklist, routines and procedures are consistent with the vendor requirements for equipment's at the dedicated warehouse
- ⇒ Resolves and ensures that contractor rectified deficiencies in the works as reported by the client
- ⇒ Inspect and ensure all construction activities are completed like Mechanical completion (**MC**) and Request for Inspection (**RFI**) and Walk down for Ready for commissioning (**RFC**)
- ⇒ Preparation of Mechanical completion Dossiers for each equipment's
- ⇒ Verifying utilized bulk materials and its certification by Closed, Visual and Detailed EX Inspection on Hazardous location as per **IEC 60079-14** standard and project Requirement & Specification (Type, Zone, Group, IP rating, Certification Origin & Approved Certification bodies.)

- ⇒ Accountable to preserve and protect equipment and material to maintain its original integrity from receipt on site to final handover of asset to owner, Maintains preservation of equipment after installation
- ⇒ Responsible for monitoring and inspection of on-site electrical installation work activities. Provides technical guidance to contractors, and utilizes expertise to ensure that the permanent works are constructed in accordance with applicable standards, and approved drawings and specifications

## **2) PRE-COMMISSIONING & COMMISSIONING :**

- Review / Develop dynamic commissioning procedure needed to execute project system completion activities
- Ensure the lists of all procedures are fully comprehensive, including operational test procedures
- Development of the execution strategies and plans for Pre-commissioning, Commissioning, completion and Hand-over to Operations
- Carry out a detailed assessment of the work involved and assess the available resources tools / Special tools / test equipment / temporary facilities etc. are available at the job site
- Responsible for the safety of all personnel assigned, ensuring the Job Hazard Analysis (**JHA**), Applicable Work Permits (**PTW**) / **LOTO** and control measures are in Place prior to start activities
- Responsible for supporting the testing team and vendor for setting all applicable test requirement and conditions as per procedure and specification
- Ensure vendor equipment specifications meet with client specifications and within budgeted costs witnesses all activities to assure contractors compliance with the approved plans and procedures
- System interface check against other interface **DCS/SIS/SCADA/PCS/ESD/F&G** and etc.
- Cause & Effect (**C&E**) functional checks, Sequence of Events (**SOE**) checks, conduct **PSSR** checks and walk down
- Witnessing and Approving Site Acceptance Tests (**SAT**)
- Responsible to carry out and all electrical conformity checks, functional tests, Operational test and carry out interface check between equipment's for **DCS/PCS/F&G/ESD** operation and carry out Remote/ Local and Auto operation for all equipment's and to fill all **QCF** test sheets
- Verifying commissioning test results for safe operation of the electrical distribution system
- Pre-commissioning & Commissioning of Power Generators (Diesel & Gas Engines), MV/LV, VFD, AC/DC, UPS, Battery system and associated cables with the HSE requirements
- Overall control of contractor commissioning team during execution of commissioning
- Responsible for witnessing and monitoring the pre commissioning activities performed by the Contractor/vendor. Pre commissioning Countersign all dossiers at Ready for Commissioning status
- Responsible for revalidation of inputted data, mechanical completion checks sheets and commissioning completion sheets in windows project completion system
- Maintain regards of plant and equipment operation readings during start up and commissioning
- Carryout initial operation and maintenance activities on power generation, distribution system and all electrical equipment's as per company instruction prior to handover to company operation engineer
- Interfaces with other disciplines to ensure integration of activities and support for troubleshooting of electrical issues associated with other discipline for remote/local, auto operations
- Liaise with Company/PMC/Commissioning/Operations to notify them of up-coming handover walk through
- Verify all installation of Electrical & instrument Equipment/apparatus in Hazardous area are according to Client Specification and **IEC 60079 – 14** standard requirement
- Conduct detailed inspection on apparatus under **IEC 60079-17** standard from installer

### a) LIST OF WORKS DURING THE PRE –COMM / COMMISSIONING :

- Complete the cold loop checks and verify the functionalities
- TAN Delta & Vector Group Test for Transformers / Hi – POT test for cables carried out.
- Soaking test for Transformers carried out to identify the internal faults.
- WT/OT/PRD/MOG & Bucholz Alarm/Tripping settings checked as per the designed values
- Neutral Grounding Reactor/Resistor/Transformer testing & Functionalities checked for Transformers & Alternators
- CRP Relay Parameters setting tested based on the recommended values
- Panels Hi-Pot Test/Contact Resistance Measurement Test carried out
- Polarity Test/Stability Test/Turns Ratio Test for CT/PT's
- Insulation Resistance /Winding Resistance for CT/PT's
- Inter – Trips upstream to Downstream & Vice Versa checking carried out
- Bus bar Stability / Differential Protection Testing carried out
- Field Instruments Testing & Calibration for Alternators & Motors
- Synchronizing & Island Operation mode Functionalities checked for Alternators
- Active / Re-active Load sharing schemes checking while parallel operations
- Mapping Analog & Digital signals from relay to DCS
- Analog & Multifunction Meters Parameters checking & calibration carried out
- Field Instruments Testing & Calibration for Alternators & Motors
- Alternator Auto Mains Failure (AMF) functionality tested
- Bump Test / Motor Solo Run Test carried out
- VFD Units Initial Programming loading and operational checks carried out.
- ATS Load transfer functionality tested
- UPS Load withstanding function checked when Mains Failure
- Battery Charger Panels Float / Boost charging and Discharging (10%) functionality checked
- DC Distribution Panel Main / Secondary individual supply load withstanding test carried out
- Electric Heater Load Test carried out

### 3) MAINTENANCE :

- Perform daily all electrical current status progress report, estimate how many man hours to completion of works and estimates material Issues & Request
- Leading the team members during all the maintenance activities
- Follow – Up with OEMs & Vendors to arrange the resources for Specialized services
- Strictly followed the maintenance software like **SAP, CMMS & MAXIMO**
- Winding IR, PI & Resistance measuring based on the **SMP** recommended Intervals and verified with Commissioned Values.
- Flow / Temperature / Pressure Control Valves & Actuators Calibration & Maintenance carried out Execution of Preventive & Breakdown maintenance in Plant equipment's
- Ensuring the Safety Pre-Cautions (**JSA OR JRA**) for all kind of equipment's Maintenance
- Effective Planning & Execution during Shutdown & Maintenance
- SMP's regularly updates based on the Technical & service bulletins revised
- Preparing the Spares budget based on the **SAP PM** module
- Maintaining the Equipment history in Software Modules
- Continuous Improvement Process implementation in the Plant to ensure the availability of equipment's (**Like 5S, Kaizen, TQM**)
- Plant Equipment's MRT, MTRA & Bump Test activities carried out
- Conducting the technical meetings to solve the burning issues (**Why? Why? & Brain Storming**)
- Execution of PM/BD as per the PM planner schedule
- Effective deployment of resources (**Manpower / Materials / Tools**)
- Strictly follow the SMP to ensure, reliable & efficient
- Reinforce the team and diplomatic ways of handling crucial situation to achieve targets
- Maintaining the MTRR record for every equipment's
- Issuing / receiving the work permits for day to day jobs

- Controlling the spares inventory by utilizing them effectively
- Identify the contingency spares for Un-interrupted equipment availability
- Maintaining the Technical updates & service letters

**b) LIST OF WORKS DURING THE MAINTENANCE & FUNCTIONING TEST:**

- 275kV, 110kV & 15kV Breakers SF6 Gas re-filling, Spring charge Mechanism, poles, bushings replacement and breaker
- 275kV Pantographs & 110kV Isolators with Earth switches (Single & Double)
- Double, Single & Bypass Bus bar feeders with lightning Arresters and counters
- Live tank & Dead Tank type CT/PT
- HV Transformers (275kV, 110kV)/ MV Transformers (11kV) safety devices WT,OT, Bucholz Relay, PRD, MOG, Aircell & Bushing replacement
- Break Down Voltage (BDV) & Dissolved Gas Analysis (DGA) for Main Tank & OLTC
- Oil filtration carried out with Own Oil filter machine
- 11kV Vacuum Circuit Breaker poles replacement in house
- 15/11 kV & 415V Alternators Exciter/Rotating Rectifier Assly/ PMG unit Troubleshooting
- Insulation Resistance(IR)/Polarization Index (PI) & Winding Resistance for Generators & Motors carried out
- Generator & Motor CO<sub>2</sub> Cleaning / Bearing Earth fault Device
- Automatic Voltage Regulator (**AVR**) troubleshooting
- Air Compressor (High Pressure & Instrument) with Drier Unit and Nitrogen Compressor (N<sub>2</sub>) with Sieves
- VFD Drives rectifier unit & Chokes replaced in house
- 12V /24V Lead Acid / VRLA Batteries with charging Units
- EOT cranes /HOT cranes
- Diesel/Electrical Main fire water pumps, electrical Jockey Pumps, Transformer Sprinkler systems and Deluge Valve Systems
- Fire Extinguishers ( Dry/Liquid/ Foam/Chemical & FM200)
- Detector system (**Fire/Smoke/Gas**) for Fire and Gas Combinations
- Grounding system (Reactor/Transformer/Resistor & Solid Earthing)
- Earthing (Electrical/Instrumentation) - Pit/Mat system - Individual / Grid value
- PLC DI/DO & AI/AO checking
- Thermograph for terminal joints at all electrical equipment's

**TRAINING PROGRAMS :**

- Successfully completed **OPITO** approved Training in Further Offshore Emergency Training (**FOET with EBS**) Course Code : 5858, Expiry date 25-July-2027 Vantage No. : 2125973
- **CompEx Ex01 - Ex04 Gas & Vapours course certificate No. 131505 Expiry Date 01-09-2029**
- Awareness Training Program on **H<sub>2</sub>S Level -II, Confined Space Entry, Fire Fighting & Basic First Aid (HABC1)**
- Permit To Work (**PTW**) – **Issuer & Recipient**, Task Risk Assessment (**TRA**) training program in Numero Uno, UAE
- **SIMOPS/HAZID/HAZOP & PHA** Training Program in M/s Lisbon, Nigeria

**PERSONAL PROFILE :**

Father's Name	:	D. Rengaraj	Nationality	:	Indian
Sex	:	Male	Date of Birth	:	03-April-1981

<b>Yellow Fever Vaccination</b>	:	<b>Life time Valid</b>
<b>COVID – 19 Vaccination</b>	:	<b>Fully Vaccinated ( 3 Doses – Cert. No. 20467908884)</b>
<b>Oral Polio Vaccination</b>	:	<b>14 –May -2025</b>

**275KV/110KV SUBSTATION – HV SYSTEM**

S.No	Equipment	Type	Name of Manufacturer	Ratings & QTY
1	HV Breakers	275 KV – SF6	ABB	
		110 KV – SF6	ABB	
2	HV OFF – Load Isolator	Disconnecting Switch	CHINT	275 KV
		Blade	GR Power	110 KV
3	Step Up Transformers	MV/HV – 15KV/275 KV	Hyundai	150 MVA X 4
		MV/HV – 11KV/110 KV	Alstom & Crompton Greaves BHEL, QRE & Voltamp	100 MVA, 80 MVA & 55 MVA
4	CT /PT	Dead Tank	ABB & Crompton Greaves	275KV & 110 KV
		Live Tank	BHEL & Voltamp	110 KV

**33KV/15KV/11KV - MV SYSTEM**

S.No	Equipment	Type	Name of Manufacturer	Ratings & QTY
1	MV Breakers & Panels	15 KV – SF6	ABB	N/A
		11 KV – SF6	ABB	N/A
		11 KV – VCB	SIEMENS & GE Seco	N/A
2	Relays	Protection & Metering	ABB, SEGC, GE, VAMP & DEIF	N/A
3	Alternators	15KV	ABB	15MW & 10 MW
		11 KV	ABB, AVK, KATO & CAT	7MW & 3.5 MW
		AVR	ABB, Basler & Woodward	
4	Motors	11 KV	GE	7.7 MW
		13.8 KV	SIEMENS	7.7 MW
5	Starters	Soft Starter	Motortronics	600A & 4 Nos
		VFD	STEP	800A & 2 Nos
6	Measuring unit	CT/PT	CG, IT, Arteche, ABB, & GE	
7	Station Transformers	MV/LV	GE, Alstom & Siemens	Up to 5 MVA
8	Testing Equipment's	Insulation Resistance	Megger	5KV

**430V/230V/110V (3Ø/1Ø) AC & 110V/24V/12V/2V DC - LV SYSTEM**

S.No	Equipment	Type	Name of Manufacturer	Ratings & QTY
1	LV Breakers & Panels	PCC & MCC	ABB, GE, L&T & Siemens	N/A
2	Relays	Protection & Metering	MG, GE & LT	
3	Alternators	400V	Stamford, Kirloskar & CAT	UPTO 1 MW
		AMF Controllers	PCC, Deep sea & DEIF	
4	Motors	400V	GE, ABB, WEG & Siemens	350 KW
5	Air Compressors	Reciprocating & Screw	Ingersoll Rand, Sperre & Atlas Copco	45 KW
6	N2 Compressors	Reciprocating	Ingersoll Rand	75 KW
7	Electric Heaters	Induction Coil Type	Chromalox & Avitron	200 KW
8	VFD's	Various applications	ABB & VACON	500 KW
9	UPS	3 Phase & 1 Phase	APC, HITACHI & Amara Raja	80 KW
10	Battery Chargers	110V & 24V DC	Eaton, Mass Tech & Amara Raja	200 AH
11	Cranes	EOT / HOT	KONE / Hi - Tech	UPTO 25T
12	Testing Equipment's	Insulation Resistance	Megger	500V

**INSTRUMENTATION – FIELD INSTRUMENTS**

S.No	Equipment	Type	Name of Manufacturer	Ratings & QTY
1	Automation	PLC's	AB, ABB & Siemens	S5 & S7
2	Field Instrument's	PIT & TIT , PT & TT, I/P & P/I, T/I PS, FS & LS	Honeywell, Rosemount, Elmass, Fairchild, Pepperl Fuchs & Danfoss	

3	Temp. Measurement	PT 100 / Thermocouples	K type	
4	Sensors	Proximity / Transducers / Vibration		
5	Control Valves	PRV / PSV / ESD / TCV / FCV / ESD	Flow Serve, Fisher, Fairchild , Dresser Emerson & AMOT	
6	Actuators	Spring Loaded	Amot, Hytrok, Maxon & Betti	
7	Isolation Relays	Opto coupler Relays	Pepperl + Fuchs	
8	Testing Equipment's	Multifunction Calibrator	Fluke / Yokogawa	All types of calibration

**POWER GENERATION : (CAPTIVE – 15KV & 11KV)**

Name of the Manufacturer	Model	Operating Software	Ratings & Quantity
M/s Wartsila, Finland	W20V34SG	UNIC – C3	10 MW X 03 No's ( 2 <sup>nd</sup> Gen) 9.7 MW X 18 No's ( 1 <sup>st</sup> Gen)
		WECS 8000	8.7 MW X 12 No's
	W18V38B W18V32 VASA 18V32LN W12V32	WECS 7000  WECS 3000	11.3 MW X 3 No's 8.2 MW X 3 No's 6.5 MW X 2 No's 5.3 MW X 1 No
M/s Caterpillar, USA	G3616 – G G3520 – C	ESS ET - Tool	3.4 MW X 5 No's 1.9 MW X 2 No's

**BOP SYSTEM**

S.No	Equipment	Type	Name of Manufacturer	Ratings & QTY
1	Fire Pump	Diesel Pump	Cummins & Perkins	250 KW
2		Electric & Jockey Pump	ABB	150 KW
3		Sprinkler Pump		90 KW
5	Smoke Detector	Thermal	Honeywell	
6	Fire & Gas Detector	IR Flame & IR Path		

**PROCESS TRAIN EQUIPMENTS**

Equipment's Name		Manufacturer's	Range
System	Equipment		
Feed Gas Inlet	GPRS	Gas Flow Solutions	52 – 90 Bar
	Gas Chromatograph	Rosemount	Analyzer
Amine Acid	Amine Re-Boiler	MDEA	127°C
Molecular Sieve Dehydration	Re-Gen Heater	Chromalox	228°C
Gas Liquefaction	Heat Exchangers	Chart Chemicals	-160°C
	Main Compressor	Cameron	2 Stage
Mixed Refrigerant	Main Motor	GE	7.7 MW
	Make – Up Motor	GE	90 KW
	Transfer Comp. Motor	GE	90 KW
Heating Medium	Heating Boiler	Sigma Thermal / INTEC	169°C
Nitrogen	Compressor Motor	ABB	75 KW
Instrument Air	Compressor Motor	ABB	55 KW
Boil – Off Gas	Compressor Motor	GE	250KW
Flare	Hot Flare		Above 0°C
	Cold Flare		Below 0°C
MCC	Soft Starter	MOTORTRONICS	7.7 MW
Electrical Heat Trace	Induction Tube Bundle	Pentair	165°F
C2+	De – Ethanizer	Siemens	
Cooling Medium	Cooling Fans	WEG	20 KW
Back-Up Power	ATS	GE	800 KW