VRA Academy

Bridging the Competency Gaps in the Energy Sector

Training Service Delivery

Presentation Outline

Who We Are

What We Do

Where We Are

Achievements

Training Events & Facilities

Who We Are

Vision

ır vision is to be the training Centre of choice in Africa

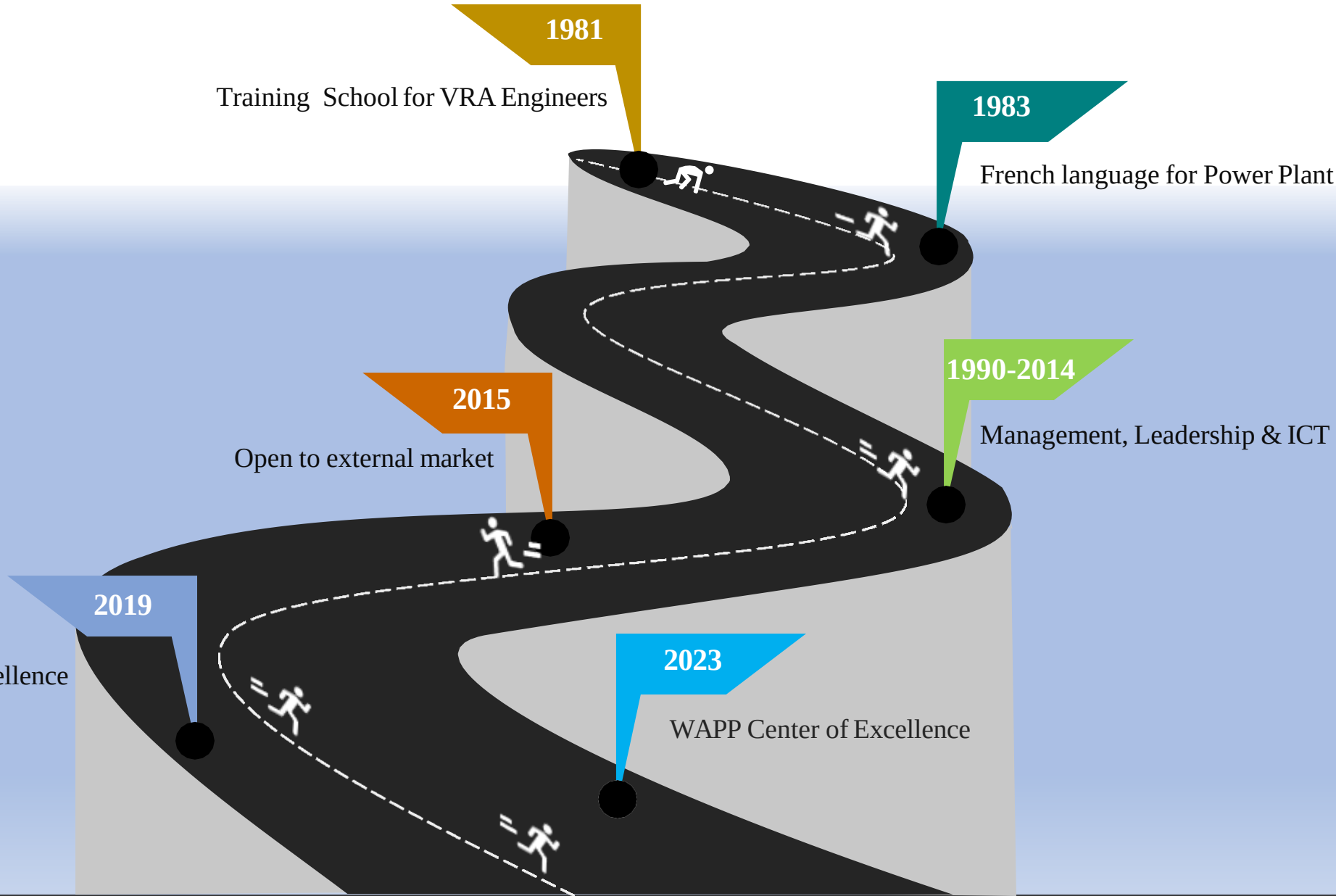
Mission

To provide quality learning and development solutions in the Power industry in Africa

Location

VRA Academy P.O. Box 77, Akuse Eastern Region, Ghana.
E-mail: info.academy@vra.com. Website: www.vraacademy.com
Tel: +233 (0) 0302218540/302218555

Who We Are


1981
Training School for VRA Engineers
1983
French language for Power Plant Operations
1990-2014
Management, Leadership & ICT
2015
Open to external market
2019
APUA Center of Excellence
2023
WAPP Center of Excellence

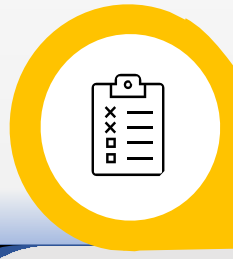
What We Do

Products & Services

Competency Based Training

Electrical Equipment Testing

Recruitment and Assessment



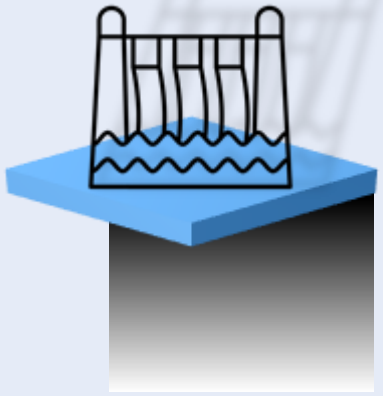
Consultancy Services

Conferencing and Workshops

What We Do

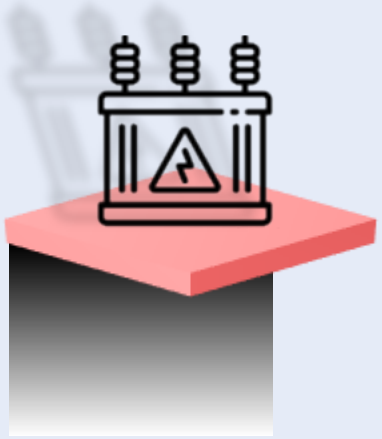
04

Management & Leadership, Finance, Power Business,, ICT, Language for Power Business



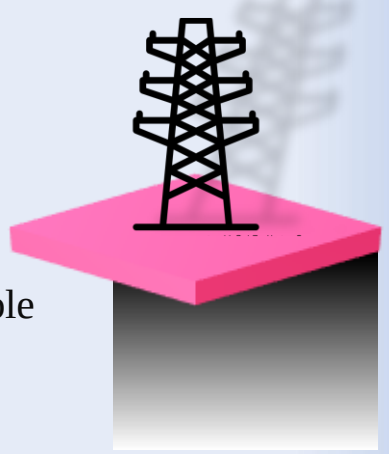
01

Generation Systems, Maintenance and Operations



03

Power Networks & Substation Maintenance



02

Electricity Exchange & Renewable Integration

Learning & Development Service Provider

What We Do


Training Milestones
3,000
2,000
1,000
External 126
Internal 1,244
External 357
Internal 2,318
External 340
Internal 2,080
External 247
Internal 2,511
2020
2021
2022
2023

What We Do

Training Management Cycle

STEP 01 — Training Needs Analysis

STEP 02 — Design & Development

STEP 03 — Material Development

STEP 04 — Piloting

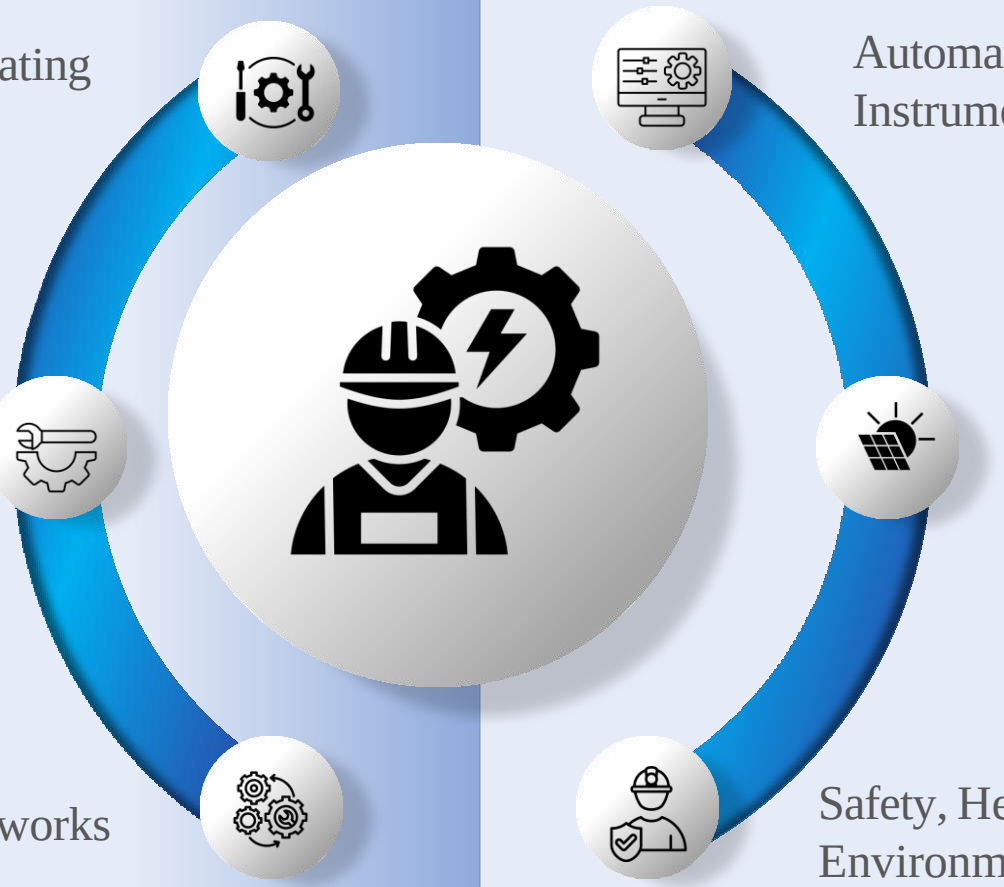
STEP 05 — Revision & Validation

STEP 06 — Implementation

STEP 07 — Assessment & Evaluation

What We Do

Technical Learning and Development



Bespoke Technical Training Programmes

Operation & Maintenance of Hydro Power Plant

Course Description

- The Operations and Maintenance of Hydro Plants programme seeks to provide participants with the requisite knowledge, practical skills and the right attitude to operate plant equipment and carry out maintenance of the plant equipment safely.
- Participants will understand the terminologies applicable at the plant and use same in communication, conduct effective inspection of station equipment, schedule maintenance for plant equipment, troubleshoot faults on the electrical systems and carry out maintenance on same and maintain plant auxiliary equipment

Course Objectives

Learners will:

- Use Terminologies applicable at the Plant
- Explain the functional principles of Plant Equipment Operations
- Conduct effective inspection of Station Equipment
- Apply Standard Operating Procedure
- Interpret Codes, Schematic, Operating Diagrams, and Symbols
- Schedule Maintenance for Plant Equipment
- Troubleshoot Faults on the Electrical and Mechanical Systems
- Troubleshoot Faults in Plant Automation and Instrumentation
- Test Plant Electrical Equipment (Governors, Exciters, Protection Relays, Transformers and Meters)
- Analyze Plant Data
- Interpret Blueprint Readings
- Maintain Plant Electrical Equipment (Governors, Exciters, Protection Relays, Transformers and Meters)
- Perform Maintenance Plant Equipment
- Maintain Plant Auxiliary Equipment (Emergency Diesel Generator, Air Compressor, Station Service Transformer)
- Perform Maintenance on Spillway Gates, Intake Gates and Tailrace Gates.
- Troubleshoot Hydraulic and Pneumatic Circuits
- Maintain Hydraulic and Pneumatic Circuits
- Perform Relay Setting
- Interpret Relay Logs

Course Structure

- The training is structured in eight (8) modules and combines theoretical concepts, hands-on exercises, field study, plant attachments, twinning, etc. Each module will equip participants with the techniques and competences required to operate and maintain a power plant.
- Duration: 5 - 9 Months
- Prerequisite: Electrical/Mechanical Engineering BSc, HND, & FTC.
- It is recommended that learners have a basic knowledge of Power Plant Operations and Maintenance.
- Evaluation Methods: class assignments/exercise, field studies, tours and work-related case scenarios, twinning and assessment.
- Engineers and Technicians

Operation & Maintenance of Transmission Systems

Course Description

- The Operations and Maintenance of Transmission Systems programme seeks to provide participants with the requisite knowledge, practical skills and the right attitude to operate and maintain the transmission system safely.

Course Objectives

Learners will:

- Carry out maintenance on major substation equipment
- Illustrate diagrammatically, the main components of an electric power system from generation, transmission and distribution
- Explain the functional principles of major components of a substation.
- Explain the functional principles of equipment at the Switchyard
- Identify major components of the HV Transmission lines.
- Select types of Towers, Insulators, Conductors based on environmental considerations
- Identify defects on Transmission line components
- Perform Transmission line Inspections
- Perform maintenance activities on Transmission lines

Course Structure

- The training is structured in seven (7) modules and combines theoretical concepts, hands-on exercises and field study. Each module will equip participants with the techniques and competences required to operate and maintain transmission lines.

Duration: 3 Months
Prerequisite: BSc Engineering or HND or FTC in Engineering
It is recommended that learners have a working knowledge of Power Plant Operations and Maintenance.
Evaluation Methods: class assignments/exercise and work-related case scenarios and assessment.
Target Group: Engineers and Technicians

Transmission System Operation (Dispatch)

Course Description

- The System Operation programme seeks to provide participants with the requisite knowledge, practical skills and the right attitude to carryout real time dispatch to customers.
- Participants at the end of the Training Programme are to operate and maintain Substation Equipment, inspect, and maintain transmission lines when given the necessary tools and continuous practice thereby ensuring reliability of power supply and prolonged life span of equipment.

Course Objectives

Learners will:

- Assess the capacity of transmission facility to move power from generators to load centres
- Take prompt action during fault to mitigate cascading trips
- Restore customer supply when there is outage
- Coordinate maintenance work on the National Interconnected Transmission System
- Perform major maintenance activities carried out on Transmission networks
- Coordinate Maintenance activities at the substations and transmission networks

Course Structure

- The training is structured in eight (8) modules and combines theoretical concepts, hands-on and exercises. Each module will equip participants with the techniques and competences required to operate and maintain a power plant.

- Duration: 3 Months
- Prerequisite: BSc Engineering or HND or FTC in Engineering
- It is recommended that learners have a working knowledge of Transmission Systems Operations.
- Evaluation Methods: class assignments/exercise and work-related case scenarios, study tour, twinning and assessment.
- Target Group: Engineers and Technicians

Dam Safety Management

Course Description

This programme seeks to provide participants with the requisite knowledge, practical skills and the right attitude on Dam Safety and its Management to enable participants to manage the safety and integrity of a Hydro Dam.

Course Objectives

Learners will:

- Explain Basic Principles of Dam Safety
- Explain the Terminologies of Dam Safety
- Explain Dam Safety Management
- Carry out Dam Inspection
- Maintain Plant auxiliary equipment- Spillway Gates
- Troubleshoot and maintain Hydraulic and Pneumatic Systems for Spillway Gate Operation
- Operate & Monitor of Power Plants
- Collect, Analyze & Report on Dam Data
- Identify Factors Leading to Dam Failures
- Develop Emergency Preparedness Plan

Course Structure

- The training is structured in five (5) modules and combines theoretical concepts, hands-on and exercises. Each module will equip participants with the techniques and competences required to manage dam safety.

Duration: 3 Weeks
Prerequisite: Electrical Engineers, Technician Engineers and Other Qualified Electrical Personnel (BSc & HND).
It is recommended that learners have a working knowledge of Power Plant Operations and Maintenance.
Evaluation Methods: class assignments/exercise and work-related case scenarios and assessment.
Target Group: Engineers and Technicians

Hydrology and Flood Frequency Analysis

Course Description

- This programme seeks to provide participants with the requisite knowledge, practical skills and the right attitude on Hydrology and Flood Frequency Analysis to enable participants to manage the safety and integrity of a Hydro Dam.

Areas

- Inflow Forecasting
- Water Resource Assessment
- Reservoir Operations and Management

Course Objectives

Learners will:

- Estimation of flow availability i.e. the average flow, seasonal variations, and long-term water availability in river systems for power generation.
- The development of Flow Duration Curves (FDCs) to determine the variability of streamflow over time for evaluating the water availability and optimizing plant capacity.
- Development of operational strategies for water storage, ensuring the plant can meet energy demands during dry seasons and manage excess flow during wet periods.
- Estimation of design flood events, i.e. determining the probability of various flood magnitudes (e.g., 10-year, 50-year, 100-year floods) for operations
- Forecasting of inflow of water in reservoirs for hydro optimization and flood control using Artificial Intelligence.

Course Structure

- The training is structured in five (5) modules and combines theoretical concepts, hands-on and exercises. Each module will equip participants with the techniques and competences required to manage dam safety.

- Duration: 3 Months
- Prerequisite: Electrical Engineers, Technician Engineers and Other Qualified Electrical Personnel (BSc & HND).
- It is recommended that learners have a working knowledge of Power Plant Operations and Maintenance.
- Evaluation Methods: class assignments/exercise and work-related case scenarios and assessment.
- Target Group: Engineers and Technicians

What We Do

Management & Leadership

Finance & Procurement

IT for Business

Non-Technical Learning and Development

Office Management & Administration

Professional Language

Professional Skills Development

Bespoke Non-Technical Training Programmes

Leadership Development: Effective Delegation and People Management

Course Description

- This programme seeks to provide participants with the requisite knowledge, practical skills and the right attitude on leadership development in areas of effective delegation and people management to better place the participant in a position to lead the work force in future

Course Objectives

Learners will:

Explain the Rudiments of leadership Skills and Development
Explain who is a Successful Leader
Build Effective Teams for Success
Delegate Responsibility for Success
Develop People Management Skills
Understand the Role of Emotional Intelligence in Leadership Success.
Effectively Communicate to the followers.

Course Structure

- The training is structured in five (5) modules and combines theoretical concepts, hands-on and exercises. Each module will equip participants with the techniques and competences required in effective leadership and people management skills need to succeed as a leader in any organization.
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Duration: 2 Weeks
Prerequisite: First Degree in Social Sciences, Engineering, Technicians, etc.
It is recommended all workers in the Power Sector.
Evaluation Methods: class assignments/exercise, work-related case scenarios and assessment.
Target Group: HR Professionals, Policy Developers, Managers, Social Workers, and Decision-Makers involved in Gender Mainstreaming, Gender Based Violence Prevention, and Case Management within their Organizations, Engineers and Technicians.

Gender Mainstreaming and Gender Based Violence Case

Course Description

- This programme seeks to provide participants with the requisite knowledge, practical skills and the right attitude on gender mainstreaming and gender-based violence case management to make the workforce gender compliant and the work place a better place for all.

Course Objectives

Learners will:

- Explain Gender Oriented Socio-Cultural and Corporate Evaluations
- Conduct Situational Assessments and Gap Analysis
- Explain Gender Mainstreaming and Gender Based Violence and its Implications for Policy Development
- Implement, Monitor, Evaluate and Report on Gender Mainstreaming

Course Structure

The training is structured in five (5) modules and combines theoretical concepts, hands-on and exercises. Each module will equip participants with the techniques and competences required in the gender mainstreaming and gender-based violence case management.

- Duration: 1 Week
- Prerequisite: First Degree in Social Sciences, Document Management, Engineering, Technicians, etc.
- It is recommended all workers in the Power Sector.
- Evaluation Methods: class assignments/exercise, work-related case scenarios and assessment.
- Target Group: HR Professionals, Policy Developers, Managers, Social Workers, and Decision-Makers involved in Gender Mainstreaming, Gender Based Violence Prevention, and Case Management within their Organizations, Engineers and Technicians.

Women-In-Electricity Mentorship Programme

Course Description

- This programme seeks to provide participants with the requisite knowledge, practical skills and the right attitude on mentorship programme for women in electricity to help the women develop their talent in the challenging environment they find themselves.

Course Objectives

Learners will:

- Bridge the Gender Gap in the Electricity Industry within the West African Sub-Region
- Promote Networking and Career Development Collaborations among Women in the Sector
- Provide a Boundaryless Opportunity for Career Growth, Professional Inspiration and Motivation for Women
- Promote Skill Development and General Competency Based Mentorship Programmes for Women

Course Structure

- The training is structured in five (5) modules and combines theoretical concepts, role plays and exercises. The programme will equip participants with the right techniques and competences in leadership, people management skills, choosing career path, mentoring and coaching need to succeed as future women leaders in electricity sector.
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Duration: 44 Days (2 Month)
Prerequisite: First Degree in Social Sciences, Document Management, Engineering, Technicians, etc.
It is recommended all women working in the Electricity Sector.
Evaluation Methods: class assignments/exercise, work-related case scenarios and assessment.
Target Group: Women in the Electricity Industry (generation, transmission, distribution sectors) and in the support services and Women who are ready to mentor others
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The link to our Training Catalogue

https://drive.google.com/file/d/1qj1NAC_-C-mq5c8R1VM8wLM4pKo124E1/view?usp=drive_link

Where We Are

Continuous learning and development
Service Provider for the Power sector

- Volta River Authority
- Power Utilities in Ghana
- Mining Companies
- Manufacturing Companies
- Member Utilities of APUA
- Member Utilities of WAPP
- Regional Training Center for ICH

Clients

A track record of assisting organizations in training and capacity development in Africa

Impacted positively on the Human Resource competencies and operational efficiency of beneficiary institutions

1. Volta River Authority
2. Ghana Grid Company
3. Bui Power Authority
4. Goldfields Limited (Tarkwa and Abosso Mines)
5. AngloGold Ashanti
6. HPI GEVAQ Ghana Limited
7. OFI/Olam Ghana Ltd
8. Association of Power Utilities in Africa (APUA)
9. Liberia Electricity Corporation (LEC)
10. Uganda Electricity Generation Company Limited
11. Electricity Distribution Supply Authority of Sierra Leone (EDSA)
12. Electricity Generation & Transmission Company, Sierra Leone (EGTC)
13. Electricity Generation Company of Malawi
14. Mainstream Energy Solutions Limited, Nigeria
15. West Africa Power Pool (WAPP)

Training Events & Facilities

We focus on practical skills acquisition

Field Tours

Training Facilities

- Technical laboratories/workshops
- Training field for practical work
- Classrooms/Conference halls
- Lodging, Restaurants/cafeteria
- Recreational facilities such as tennis, squash, volleyball, basketball and football

Training Facilities

Technical Laboratories

Training Rooms

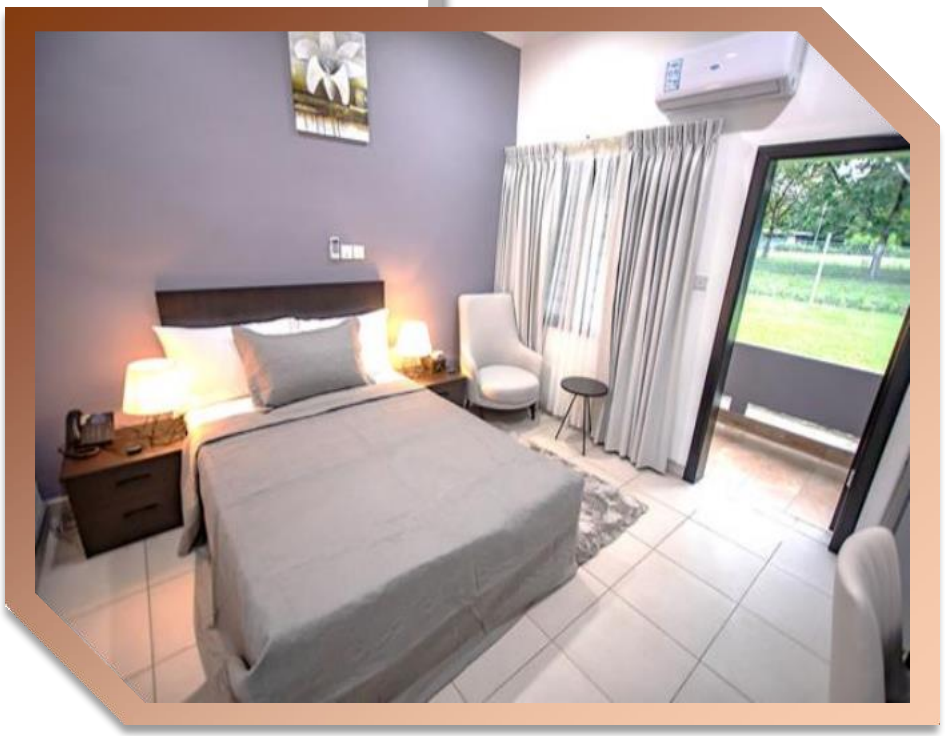
Training Field

Mechanical Workshop

Training Facilities

Restaurant/Cafeteria

Accommodation



Thank You

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