TECHNICAL REPORT

ON

STUDENT INDUSTRIAL WORKEXPERIENCE SCHEME

(SIWES)

HELD AT

BAJIOLAS NIG LTD

BY

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ABSTRACT

This Industrial Training report presents the experience gained during my four-month industrial training at BAJIOLAS NIG LTD, focusing on electrical and electronic engineering applications. My training involved hands-on exposure to electrical installations, troubleshooting, and maintenance of electrical systems used in industrial operations. During this period, I acquired practical knowledge in wiring, circuit design, electrical machine operations, and the integration of automation systems. I also assisted in diagnosing and repairing electrical faults, ensuring the proper functionality of various electronic and power systems within the facility.This report discusses the technical skills gained during the training, highlighting the relevance of the Student Industrial Work Experience Scheme (SIWES) in equipping students with the necessary technical competence to excel in real-world engineering applications.

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CHAPTER ONE
INTRODUCTION

1.1 BACKGROUND OF SIWES

The Student Industrial Work Experience Scheme (SIWES) is a structured program designed to bridge the gap between theoretical knowledge acquired in the classroom and its practical application in real-world industries. It was established by the Federal Government of Nigeria in collaboration with the Industrial Training Fund (ITF) to provide students with hands-on experience in their respective fields.

For Electrical and Electronic Engineering students, SIWES offers practical exposure to electrical installations, circuit design, power systems, automation, telecommunications, and maintenance of electrical/electronic equipment. This practical training enhances students' technical competence and prepares them for professional roles in the industry.

1.2 OBJECTIVES OF SIWES

The objectives of SIWES for Electrical and Electronic Engineering students include:

1. Providing exposure to real-world engineering practices and challenges.

2. Enhancing students' understanding of electrical and electronic systems.

3. Developing skills in troubleshooting, maintenance, and repair of electrical equipment.

4. Introducing students to industry safety regulations and standard procedures.

5. Preparing students for careers in power systems, control engineering, and automation.

1.3 SIGNIFICANCE OF SIWES IN ELECTRICAL AND ELECTRONIC ENGINEERING

SIWES plays a critical role in preparing students for careers in electrical and electronic engineering by offering practical experience in:

- Electrical wiring and installations.
- Power distribution and control systems.
- Testing and maintenance of electrical components.
- Design and troubleshooting of circuits.
- The application of automation and telecommunications systems.

1.4 SCOPE AND LIMITATIONS OF THE REPORT

This report details my industrial training experience at BAJIOLAS NIG LTD, covering the technical skills acquired, challenges faced, and recommendations. However, due to time constraints and limited access to certain industrial facilities, some areas of advanced engineering operations could not be fully explored.

CHAPTER TWO
ORGANIZATIONAL PROFILE

2.1 HISTORY AND BACKGROUND OF THE ORGANIZATION

BAJIOLAS NIGERIA LIMITED is a reputable company in the field of electrical and electronic engineering, committed to providing high-quality solutions in electrical installations, power systems, and automation technologies. Since its inception, the company was founded in 2005 and has been at the forefront of innovation, offering cutting-edge services tailored to meet the needs of industrial, commercial, and residential clients.

BAJIOLAS NIGERIA LIMITED was established with the vision of bridging the gap between technological advancements and practical applications in electrical and electronic engineering. Over the years, the company has expanded its expertise, integrating modern engineering practices to deliver reliable and efficient solutions. In 2010, the company began packaging its services to better serve a growing client base, ensuring structured and efficient service delivery.

The company specializes in various electrical and electronic engineering services, including but not limited to:

- Design and installation of electrical power systems
- Maintenance and repair of electrical equipment
- Automation and control system development
- Renewable energy solutions

2.2 ORGANIZATIONAL STRUCTURE

The company operates through various departments that work collaboratively to achieve its objectives. The major departments include:

Electrical Engineering Department: Handles electrical power systems, installations, and maintenance.

Electronics and Telecommunications Unit: Focuses on circuit design, automation, and communication systems.

Maintenance and Repair Division: Responsible for troubleshooting and servicing electrical equipment.

2.3 FUNCTIONS AND RESPONSIBILITIES OF THE ORGANIZATION

The company specializes in:

1. Electrical installation and maintenance of power systems.

2. Design and implementation of electronic circuits.

3. Renewable energy solutions such as solar power systems.

4. Repair and servicing of industrial electrical equipment.

5. Telecommunications and networking solutions.

2.4 DEPARTMENTS AND THEIR FUNCTIONS

During my SIWES training, I worked with different departments, including

Power Systems Engineering: Focused on transformers, generators, and power distribution.

Control and Automation: Involved in PLC programming and industrial automation.

Electronics and Circuit Design: Worked on PCB design, embedded systems, and microcontrollers.

CHAPTER THREE
INDUSTRIAL TRAINING EXPERIENCE

3.1 INTRODUCTION TO WORK ACTIVITIES

During my SIWES training at BAJIOLAS NIG LTD, I was actively involved in various engineering tasks under the supervision of experienced engineers. The training provided a practical foundation for understanding electrical systems, electronic circuit design, and industrial maintenance procedures.

3.2 DUTIES AND RESPONSIBILITIES

Throughout my training, I performed the following tasks:

1. Assisting in electrical wiring and installation of industrial equipment.

2. Conducting routine maintenance of transformers, circuit breakers, and switchgear

3. Troubleshooting and repairing faulty electrical circuits.

4. Assembling and testing electrical and electronic components.

5. Learning about solar energy system design and inverter installation.

6. Engaging in safety procedures and hazard management in electrical systems.

3.3 CHALLENGES FACED DURING SIWES

Some challenges encountered during the industrial training include

- Limited access to advanced engineering tools and equipment due to safety regulations.
- Understanding complex electrical diagrams and control circuit designs.
- Adapting to the fast-paced industrial work environment.
- Exposure to hazardous electrical conditions requiring strict safety measures.

3.4 SOLUTIONS AND LESSONS LEARNED

To overcome these challenges, I:

- Actively participated in hands-on training sessions.
- Studied electrical schematics and control diagrams extensively.
- Adhered to strict safety procedures when handling electrical equipment.
- Engaged with experienced engineers to gain deeper insights into complex electrical systems.

CHAPTER FOUR
IMPACT OF SIWES AND RECOMMENDATIONS

4.1 IMPACT OF SIWES ON MY CAREER DEVELOPMENT

The SIWES training significantly enhanced my technical and professional skills by:

1. Providing practical exposure to electrical and electronic engineering applications.

2. Improving my ability to troubleshoot and repair electrical faults.

3. Strengthening my knowledge of safety regulations and workplace ethics.

4. Enhancing my teamwork and problem-solving skills in a real-world engineering environment.

4.2 RECOMMENDATIONS FOR THE ORGANIZATION

To improve the SIWES experience for future students, I recommend that the organization:

- Provide more structured training sessions for SIWES students.
- Allow students to engage in more hands-on projects and real-world problem-solving.
- Upgrade and expand access to modern engineering tools and equipment.
- Conduct periodic safety training sessions for students.

4.3 RECOMMENDATIONS FOR FUTURE SIWES STUDENTS

To maximize their industrial training experience, future SIWES students should:

- Be proactive in learning and seeking additional responsibilities.
- Develop a strong understanding of electrical and electronic principles before starting SIWES.
- Strictly adhere to safety precautions in handling electrical systems.

- Build professional relationships with engineers and supervisors for mentorship.

4.4 CONCLUSION

My SIWES experience at BAJIOLAS NIG LTD provided valuable practical training in electrical and electronic engineering. The hands-on exposure to real-world engineering applications has strengthened my technical and problem-solving skills. This experience has significantly prepared me for future career opportunities in the engineering industry.

REFERENCES

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