BABA BANDA SINGH BAHADUR ENGINEERING COLLEGE, FATEHGARH SAHIB

*(Font Times New Roman TNR.24)*



DEPARTMENT

OF

ELECTRICAL ENGINEERING

*(TNR.24)*

[Format of Report (Six Weeks/Six Month)]

Students are required to submit the report in the format as given below:

(Separate files are required for Hardware and Software)

Title page

Supervisor Certificate i

Abstract ii

Acknowledgement iii

List of Figures iv

List of Tables v

Table of Contents vi

**Chapter 1 Introduction Page 1 (so on onwards)**

* 1. Introduction to Organization ***(should not exceed 2 pages including Figs.)***

**Chapter 2. Training details**

2.1 Objectives of the training *(whatever software or hardware done during*

 *Training)*

 2.2 Introduction *(About the machines / software used, discuss in brief about the*

 *Machines upon which you have worked and about the software to attain the*

 *Objectives listed in 2.1) Student should include the pictures of machines/*

 *Software on which they have worked.*

**Chapter 3. Project Details**

3.1 Introduction to Project *(main emphasis is to be given on this)*

3.2 Project Category *(Study based, System Development, Research based, Industry Automation, Product development)*

3.3 Details of the Project *(briefly describe the components seen / worked upon during training period, during software training student can explain about the software, detailed circuit diagram of the project , cost analysis)*

3.4 Feasibility study (Technical, Economical, Operational)

3.5 Uses in the industry

**Chapter 4. Results and Discussions**

4.1 Results (reading of the tests, pictures of the improvement done)

 4.2 Discussions

**Chapter 5. Conclusion and Future Scope**

**References/Bibliography**

**SPECIFICATIONS FOR TRAINING REPORT**

1. Report shall be computer typed (English- British, Font -Times Roman, Size-12 point) and printed on A4 size paper.
2. The Report shall be hard bound with cover page in white color. The name of the candidate, degree (specifying the branch), Roll no., Session ,Year of submission, name of the University including college name shall be printed in black on the cover [Refer sample sheet (outer cover)]. But initially students should get their report printed in spiral bound form and after making the required changes as advised by examiner during internal viva they should submit the hard bound form of report to the same examiner.
3. The report shall be typed on one side only with double space with a margin 3.5 cm on the left, 2.5 cm on the top, and 1.25 cm on the right and at bottom.
4. In the report, the title page [Refer sample sheet (inner cover)] should be given first then the Certificate by the candidate and the supervisor(s) in sequence, followed by an abstract of the report (not exceeding 1500 words). This should be followed by the acknowledgment, list of figures/list of tables, notations/nomenclature, and then contents with page no.s

5. References and Bibliography should be included in report.

7.      The diagrams should be printed on a light/white background, Tabular matter should be clearly arranged. Decimal point may be indicated by full stop(.)The caption for Figure must be given at the BOTTOM of the Fig. and Caption for the Table must be given at the TOP of the Table.

8.      The graphs should be combined for the same parameters for proper comparison. Single graph should be avoided as far as possible.

9.      Conclusions must not exceed more than two pages.

10.  The report must consist of following chapters

Chapter 1- Introduction

Chapter 2- Training details

 Chapter 3- Project Details

  Chapter 4- Results and Discussions

  Chapter 5-Conclusion and Future Scope

  References

  Appendix (if any)

Annexures-I,II,III

**Sample sheet (outer cover)**

STUDY OF CIRCUIT BREAKERS AT 220KV SUBSTATION MOHALI (24pt.)

REPORT (14pt.)

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR

Six Week/Six Months Industrial Training

at

220 KV SUBSTATION MOHALI

 **(from \_\_\_\_\_ to \_\_\_\_\_\_\_\_)**

#### SUBMITTED BY

AAAAAA AAAAA (14pt)

Branch

Roll No.

Univ. Roll No.

COLLEGE Logo

**Electrical Engineering Department**

**BABA BANDA SINGH BAHADUR ENGINEERING COLLEGE**

FATEHGARH SAHIB , PUNJAB, INDIA (14pt.)

Sample sheet (inner title page)

STUDY OF CIRCUIT BREAKERS AT 220KV SUBSTATION MOHALI (**24pt, Bold)**

TRAINING REPORT

on Six Week/Six Months Industrial Training

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF

**BACHELOR OF TECHNOLOGY**

 **(Electrical Engineering)**

**SUBMITTED TO ( Name of University)(14 pt, bold)**

**Training period (from \_\_\_\_\_ to \_\_\_\_\_\_\_\_)**

**SUBMITTED BY (14pt, Bold)**

Name of Student(S) University Roll No.

1. 1.

2. 2.

**SUPERVISED BY (14pt, Bold)**

Name of Company Supervisor(S) Name of Departmental supervisor(S)

Designation  Designation

COLLEGE Logo

**ELECTRICAL ENGINEERING DEPARTMENT**

**BABA BANDA SINGH BAHADUR ENGINEERING COLLEGE**

**FATEHGARH SAHIB , PUNJAB, INDIA (14PT.)**

**Abstract(Sample)**

This report highlights the necessity of undertaking performance analysis and energy audit study of an electrical installation, more particularly a power substation on regular basis. A 630 MVA, 400/220 kV substation was identified and a detailed study was carried out to assess the various station performance parameters under different operating conditions. It was observed that the installed capacity of the station (transformer) was very large compared to the actual load it had to supply. Thus the station was under loaded and underutilized for the major period of its operation. This reduced the operational efficiency of the station. Secondly the incoming line voltage level was remaining high during most of the period of operation. Presently voltage is tried to be maintained by switching ON the line reactors at the receiving and sending ends of this station, switching OFF one of the 400 kV incoming lines during off peak loading conditions, thus risking the supply reliability. The present study emphasizes on the urgent need for improving the power quality, streamlining and optimizing the station capacity, operations and its loading pattern. Accordingly suggestions are proposed for the same.

The simulation and analysis includes power flow analysis and short circuit analysis. Power flow study also known as load flow constitutes an important part of power system analysis and design of any power system network. The power flow analysis and short circuit analysis is done in the Power World Simulator Software. For the power flow analysis using the single line diagram of 220 kV substations, the model of the substation is developed in the Power World Simulator. The different kinds of faults are also simulated at various buses of the substation. Power World Simulator is very useful software for analyzing power system operation. By doing the power flow analysis in the Power World Simulator we estimate the real and reactive power flows, power losses in the entire network and phase angle using Power World Simulator. Short circuit analysis is also useful to select, set, and coordinate protective equipment such as circuit breakers, fuses, relays, and instrument transformers.

|  |
| --- |
|  |
|  |

|  |
| --- |
| Sample sheet -Certificate |

  |

**BABA BANDA SINGH BAHADUR ENGINEERING COLLEGE**

**FATEHGARH SAHIB ,**

**TO WHOM IT MAY CONCERN**

I hereby certify that “NAME OF THE STUDENT ” , University Roll No \_\_\_\_\_\_\_\_\_\_\_ of Baba Banda Singh Bahadur Engineering College Fatehgarh Sahib, has undergone six week /six month industrial training from \_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_at our organization to fulfill the requirements for the award of degree of B.Tech. (Branch).

He/She has worked on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ project during the training under the supervision of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

During his/her tenure with us we found him sincere and hard working. We wish him/her a great success in the future.

Signature of the Student

Signature of the SUPERVISOR (S)

 (Seal of Organization)

|  |
| --- |
|  |
|  |

|  |
| --- |
| SAMPLE SHEET**-ACKNOWLEDGEMENT**   |

  |

**ACKNOWLEDGEMENT**

I am highly grateful to the Maj Gen (Dr.) G.S.Lamba(VSM) , Principal, Baba Banda Singh Bahadur Engineering College Fatehgarh Sahib, for providing this opportunity to carry out the six month industrial training at …………………

The constant guidance and encouragement received from Dr. G.S.Brar HOD(EE), BBSBEC,FGS has been of great help in carrying out the project work and is acknowledged with humble thanks.

I would like to express a deep sense of gratitude and thanks to my trainers/ training guide/Director/CEO of Company……………… as without his/her/their wise counsel and able guidance, it would have been impossible to complete the report in this manner.

The help provided by Mr./Ms. ……………….of ………….(name of company ) for experimentation is also greatly acknowledged.

I express gratitude to faculty of my department and specially my departmental coordinators for training for their intellectual support throughout the course of this work.

(Signature of student)

**(Name of the student)**

**LIST OF FIGURES (Sample)**

**Fig. No. Figure Description Page No.**

1.1 Substation diagram 7

1.2 Circuit Breaker 9

1.3 Line and Bus bar 11

1.4 Single line diagram of PSTCL 14

2.1 Methodology to calculate SSR 18

2.2 Cost of Conductors 22

2.3 Single line diagram of 220 kV S/S 23

2.4 Flowchart of work 29

2.5 Connections of CB 28

3.1 Relay Parameters 32

**LIST OF TABLES (Sample)**

**Table No. Table Description Page No.**

1.1 Test result of CB Closing 15

2.2 Relay working time 29

3.4 SCR ratio 33

3.8 Cost of conductors 56

**table of CONTENTS (Sample)**

##  **Contents Page No.**

## ***Supervisor’s Certificate i***

## ***Abstract ii***

## ***Acknowledgement iii***

## ***List of Figures iv***

## ***List of Tables vi***

## ***Table of Contents vii***

## **Chapter 1: Introduction 1**

 1.1 1

 1.2 2

 You can continue as per the respective Chapter’s contents **Chapter 2: Training Details 9**

 **Chapter 3: Project Details 17**

 **Chapter 4: Results and Discussions 24**

**Chapter 5: Conclusion and Future Scope 31**

**References 39**

**Appendix A : 37**

Note: The report of respective project should be as per prescribed format and in the same order though if some of the points are not applicable in regard with the concerned project, they might be omitted. The sample is for your reference only. Copied reports will not be entertained. Students have same place of training can have same training report but with different projects.