A Major-Project report on

"EFFECT OF FAULT RIDE THROUGH CAPABILITY ON ELECTRIC VEHICLE CHARGING STATION UNDER CRITICAL VOLTAGE CONDITIONS"

Submitted to

Jawaharlal Nehru Technological University, Hyderabad

In partial fulfilment of the academic requirements for

the award of Degree of

BACHELOR OF TECHNOLOGY

In

ELECTRICAL & ELECTRONICS ENGINEERING

By

RESHMA	206Y5A0221
K.LAXMI PRASANNA	196Y1A0206
M.NIHARIKA	196Y1A0208
B.LAXMIPRIYA	206Y5A0201
B.MANASWINI	206Y5A0202

Under the esteemed guidance of

Mrs. P.SUCHARITHA M.Tech

Assistant Professor

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

SUMATHI REDDY

INSTITUTE OF TECHNOLOGY FOR WOMEN

Learning at its best

Affiliated to JNTUH - Approved by AICTE - Accredited by NBA

S.R.I.T. FOR WOMEN * WARANGAL *

2022-23

PRINCIPAL

Sumathi Reddy Institute of Technology for Women

Ananthasagar (V), Hasanparthy (M)

WARANGAL- 506 371(T.S.)

SUMATHI REDDY
INSTITUTE OF TECHNOLOGY FOR WOMEN

Learning at its best

Affiliated to JNTUH - Approved by AICTE - Accredited by NBA

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

CERTIFICATE

This is to certify that the major project entitled "Effect of Fault Ride Through Capability on Electric Vehicle Charging Station Under Critical Voltage Conditions" submitted to **JNTUH** carried out by the following students of **IV-B.Tech** in the partial fulfilment for the award of the B.Tech Degree in **Electrical &Electronics Engineering** during the academic year 2022-23.

RESHMA	206Y5A0221
K.LAXMI PRASANNA	196Y1A0206
M.NIHARIKA	196Y1A0208
B.LAXMIPRIYA	206Y5A0201
B.MANASWINI	206Y5A0202

Guide
Mrs. P. Sucharitha

Head of the Dept
Dr. K. Mahender sharma

S.R.I.T. FOR WOMEN * WARANGAL *

PRINCIPAL
Sumathi Reddy Institute of Technology for Women
Ananthasagar (V), Hasanparthy (M)
WARANGAL- 506 371 (T.S.)

ABSTRACT

A high-quality power supply is required for theProper functioning of the electric vehicle (EV) charging system.However, the voltage quality is one of the significant issues in The distribution grid. This article aims to examine the impacts Of voltage disturbance on EV batteries and charging systems,And provides a fault ride-through capability (FRTC) to enhance.The voltage quality. The charging system is constructed by the Three-phase controlled rectifier and the dc–dc converter. The EV Battery pack is modeled with lithium-ion batteries. The FRTC System is designed to improve the voltage quality, and it is Achieved through the dynamic voltage restorer. It protects the EV Batteries and charging system from the critical voltage sag levels. The performance of the proposed EV charging station (EVCS).Has been investigated in 30%, 60%, and 90% voltage sag through The MATLAB/Simulink platform. Also, the real-time validation. Has been carried out by the software-in-the-loop test with the help Of the dSPACE (DS1202) real-time system. The EVCS with an FRTC system provides better performance than the conventional EVCS.

S.R.I.T. FOR WOMEN ★ WARANGAL ★

Rajan

Principal

Sumathi Reddy Institute of Technology for Women
Ananthasagar (V), Hasanparthy (M)
WARANGAL - 506 371 (TS)