**APPLICATION FORM FOR S7 STUDENT PROJECT**

1. Title of the project

Autonomous robot to minimize safety hazards in substations and to aide in automation of substation

1. Guide name: Gomathy S
2. Student(s) name and group:

Amal Joshy

Rohit S Nair

Rohith M Menon

Vivek T S

1. Broad subject area/field of classification

Electrical Safety

Grid automation

1. Project Type(s)

Applied Research/Developmental

1. Abstract

In the current scenario the safety risk of entering a transformer yard of a substation during a heavy rain is too risky. (monsoon time) As insulator flashovers during this time can lead to creation of hotspots, heavy pieces of insulators thrown into air. Moreover, the air resistance also decreases due to higher humidity value.

To overcome the above mentioned issues an autonomous ground based bot can be used to send live data to the substation operator sitting in a safer place than the yard. Which can be a boon as the stations are often managed by an operator and an assistant during the third shift. The bot can also aide in complete automation of substation by taking autonomous readings from different kiosks.

1. Expected outcomes of the project

Development of the above mentioned bot and its analysis

1. Applications/socioeconomic importance

To increase the safety standards

Aide in automation of iterative time consuming tasks

1. List of equipment required:

Fabricated Chasee

Lidar

4WD drive system

Standard telescopic camera

Raspberry pi with ROS, Open CV

Thermal imager

SDR

IMU

LTE module

PSU

Guide Project coordinator HOD